THE VETERINARY RECORD

A Weekly Journal for the Profession.

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The "National" Meetings.

The meetings of the "National" to be held in London on the 27th and 28th of next month should be exceptionally attractive. The already advertised list of papers and their writers—"Shivering and Stringhalt," by the veteran Prof. M'Call; "Contagious Granular Vaginitis in Cattle," by Mr. Ainsworth Wilson; "Rickets in the Dog," by Mr. F. W. Cousens; and "Strangles," by Capt. A. G. Todd—speaks for itself. One paper—that by Mr. Ainsworth Wilson, the discussion of which is to be opened by Mr. Stockman—is of special interest as dealing with a subject which has not yet received the general attention it deserves from the profession in these islands; the others all concern well-known subjects regarding which we have still much to learn. Town and country practitioners alike are catered for, and as some of the best known men in the profession, including Sir John M'Fadyean, have consented to open the discussions, there will be no lack of efficient criticism to set the ball of debate rolling.

As usual, there will be an entertainment on the third day, the 29th, given by the Central Society and the London practitioners. The form which this will take is not yet definitely settled; but we understand that a proposal that it shall consist of free admission, lunch, and tea at the Japanese Exhibition at the "White City" is finding general favour. Certainly a very enjoyable day could be spent in this way, and the proposal offers some special advantages. One is that members could easily divide into little groups of friends, which many prefer to being amongst a larger gathering of less intimate acquaintances; another, that the proximity of the various railway centres would be very convenient for the departure of country members; and perhaps the greatest of all is that the day's pleasure would be in no way dependent upon the weather.

The Proposed Union of Veterinary Societies.

By far the most momentous business which will come before the "National" next month is the scheme for union with the local societies. The scheme is ready for presentation to the "National," and was outlined by Prof. Gofton in our issue of last week. Not very many alterations of the original provisional draft have been made, but two are of real importance. The first of these is the deletion of the list of detailed objects of the Association which appeared in the draft, and its replacement by the present Rule 2 of the "National." This change will probably meet with general approval. By its adoption some proposals which encountered much criticism in the draft—such as those relating to the consideration of professional ethics—are dropped; while some—such as the encouragement of research work—are still practicable under the comprehensive third and fourth sections of the existing "National" rule, which never has been acted upon in its entirety. The second alteration we mention is much more important, as it concerns the most difficult portion of any scheme of union, viz., its financial basis. The proposal which the Committee have finally decided upon is a modification of a suggestion which first emanated from Ireland, and consists in an annual subscription by the local societies or "Divisions" to the central body, amounting to five shillings for each of their members. The sum is much smaller than was at first suggested; and the reduction will tend to remove any existing misgivings as to the financial effect of the scheme upon local societies. Its effect upon the finances of the "National" is another matter. The expenses of the central body would be sure to increase if union were accomplished, while its membership subscription would diminish; on the other hand it might be possible for the "National," by reducing some of its present disbursements—as grants, or delegates to congresses—to adapt itself to the altered conditions. These, however, are matters which must be decided by the members of the "National," who no doubt will discuss them fully next month In the meantime we should all consider the scheme thoroughly—carefully weighing its practicability, but not losing sight of the prospective advantages of a union.

BACELLI'S TREATMENT OF TETANUS BY HYPODERMIC INJECTIONS OF A SOLUTION OF CARBOLIC ACID.

From Lieut.-Col. J. Moore, Deputy Principal Veterinary Officer in India.

At page 330 of Winslow's "Veterinary Materia Medica and Therapeutics," 5th Edition, it is recorded that "Bacelli's treatment of tetanus has met with remarkable (4th edition says considerable) success of late. One drachm of the pure acid in solution (5 to 10 per cent.) should be injected in the region of the neck and shoulders of the horse every two hours during the first 32 hours, and less frequently afterward. As much as 36 drachms may be given to the horse in 24 hours, for there appears to be a special tolerance for carbolic acid acquired in tetanus."

Instructions were given to veterinary officers serving in India to try Bacelli's treatment, and the following communications may be of interest to readers of your journal:—

Communicated by Lieut. H. C. Stewart, A.V.C., Station Veterinary Hospital, Nowshera.

A horse belonging to the 35th Scinde Horse, Peshawar, was admitted to the 21st Cavalry Veterinary Hospital, Nowshera Cavalry Cantonment, on the 19th September and was treated as follows:—

A purgative was first given, and after 24 hours ʒi. Acid carbolic pure, in solution, was injected into the region of the neck and shoulders every two hours for 32 hours; then every four hours for three days, and afterwards every eight hours. This treatment was continued until the 26th instant, on which date I inspected it. The horse was then in a very serious condition, showing the worst symptoms of the disease—the stiff or "stag-like" appearances of the extremities, and nearly jumping out of the box on the slightest movement of anyone in the vicinity. No length of time being stated for this treatment and the horse apparently becoming worse, I decided to try a change of treatment for two or three days, and alternate it with the carbolic acid method. Consequently ʒi. ext. belladonna virid. in treacle was administered twice daily with quinine. Under this treatment the animal at once started to improve, and it was therefore continued until October 10th. It had now practically recovered, and tonic powders were given daily containing:

Pulv. Nux Vom.	ʒi.
Pulv. Gentian	ʒii.
Pulv. Zingib.	ʒss.

The horse was discharged as cured on October 15th, having apparently quite recovered. Will you please ascertain how long Bacelli's treatment should be continued, as if there is no danger of carbolic acid poisoning, I propose next time to continue the treatment until the case is cured or dies. Under the circumstances I cannot say if the carbolic acid or belladonna effected the cure, but am inclined to think that both these drugs had a share in it; the carbolic acid tiding it over the worst stages of the disease.

(Signed) H. C. Stewart, Lieut., A.V.C.

Communicated by Lieut. R. W. Mellard. A.V.C., Station Veterinary Hospital, Mhow.

On 23rd December, 1909, a bay Australian mare "D" 2nd Inniskilling Dragoons, aged 11 years, an officer's charger, was admitted to hospital with "wound contused (broken knees)," both fore. The accident was a severe one, extending down to tendon sheath. The mare was detained in hospital, the wounds healing very slowly. On the morning of the 2nd February, when going round the hospital, I observed the mare's tail erected, which looked very suspicious of tetanus. I had the mare taken outside, and on examination there was no doubt the case was one of tetanus.

Symptoms.—The jaws were fixed, protrusion of the nose, contraction of the muscles of the neck, ribs, and along the back; when the head was elevated the membrana nictitans dropped over the eye; on the slightest noise there were tetanic convulsions.

Treatment.—The animal was segregated in a shed which was closed in and kept in semi-darkness. An aloetic ball was given at once.

Diet.—Lucerne and very sloppy bran mashes.

Bacelli's treatment.—1st. day.—Every two hours the following injections were given hypodermically:

℞	Ac. Carb.	ʒi.
	Aqua dist.	ʒx.

2nd day.—Same injection every three hours.
3rd day.—Same injection every four hours.
4th day.—No injection given.
5th day.—Seven injections given every third hour.

In all the animal had 3 ounces, 7 drachms. I stopped the injection, as I found the insertion of the needle into the skin caused the animal to have violent convulsions. Even touching the skin caused great pain, but as soon as a few drops of the concentrated carbolic solution was injected, it acting as a local anæsthetic, the animal did not mind further handling over the seat of inoculation. Combined with Bacelli's treatment large doses of Chloral hydrate 1½ ozs. were given per rectum daily for four days. Also Pot. bromide ½ oz. was given on the fifth day and continued for ten days. Since then no medicine has been given, the animal is still segregated and is improving slowly. She has now been under treatment 26 days.

(Signed) R. W. Mellard, Lieut., A.V.C.

Communicated by Col. F. W. Forsdyke, A.V.S., S.V.O., 2nd (Rawal Pindi) Division.

Bacelli's treatment of tetanus with carbolic acid has been tried at Rawal Pindi and Campbellpore, and to date, with little success.

Case I.—The first case was horse No. 49, 13th Battery, R.F.A., admitted to hospital at noon, showing marked symptoms of tetanus, probably due to wound infection, a nearly healed wound existing on the abdomen.

Bacelli's treatment was commenced—one drachm of a 10 per cent. solution of pure carbolic acid being injected in the region of the neck and shoulders every two hours on that day. The condition of horse showed no change. Thin gruel was administered and swallowed with difficulty.

2nd day.—The injections were continued up to 8.30 p.m., condition remained unchanged.

3rd day.—At 12.30 a.m. another injection was given and repeated every four hours until 8.30 a.m., then every two hours until 8.30 p.m. Result: distress and excitement shown.

4th day.—At 12.30 a.m. injections were given every four hours until 8.30 a.m., and every two hours until 6 p.m. when the patient became worse, showing signs of approaching death; died at 9 p.m.

Case 2.—A private charger admitted to hospital late at night and received a dose at once of anti-tetanic serum. The next morning was found to be doing well, and attempting to eat. At 9 a.m. Bacelli's treatment was commenced and carried on until 5 p.m., when the tetanic spasms became so severe that the animal could not be approached without danger of its falling. He had received up to this time five doses of pure carbolic acid in 7½ per cent. solution. On the following morning the case was considered hopeless and destruction followed. The Veterinary Officer in charge records his opinion that "had it not been for Bacelli's treatment he might have recovered."

I am of opinion neither of these cases can be considered conclusive, and am seeking further trials and reports.

(Signed) F. W. Forsdyke, Colonel, A.V.S.

SCROTAL HERNIA.

By J. R. Smith, West Wratting, Cambridge.

Yearling hackney colt had been operated on a fortnight and turned out with a two-year-old cart filly. My man called me in the morning and told me the colt's guts could be seen hanging from the scrotum. When I saw the colt, a loop of gut was protruding about six inches, the colt in pain and sweating: this was 5 a.m. I had to keep my vigil until 7.30 before I could get assistance, the gut reached the hock by this time, the colt had to be walked down a twenty acre field of bushy grass and it lacerated the bowls. I cast him and cut off the gut high in the scrotum, put three sutures of silver wire in the gut, wired up the orifice in scrotum, gave him green tares to eat; saw him at 7 p.m., the colt was feeding and had excreted once. I saw it at 9 a.m. next morning, it was feeding and had excreted six times; no swelling in scrotum. I told the owner it would die, but he said, No. I told him he had more faith than I had. The colt recovered and was turned out alone in a fortnight, and has never ailed anything since, it is now three years ago and he has been at work two years. He is rising five and is for sale, 15.2 hands; quiet and fast in harness; will any Professor buy him? I should like to see a post-mortem on him when he dies; no swelling in the scrotum now. He would be a "toe biter" for a vet. to examine. Has anyone ever performed the same operation?

The cause, trying to cover the filly.

ABSTRACTS FROM FOREIGN JOURNALS

Pneumectomy in a Dog.

Quadrelli, of Potgoritza, Montenegro, records (*La Clinica Veterinaria*) a case of a dog which had been stabbed with a knife by a butcher upon the left side of the thorax. The wound, which was nearly three inches long, penetrated between the seventh and eighth rib into the thoracic cavity and allowed two lobes of the left lung to protrude.

Quadrelli saw the dog four days after the injury, and found the prolapsed portions of lung soiled and on the point of becoming gangrenous. The surroundings of the wound showed no appearances of inflammation or other pathological alteration. On the other hand high fever was present, the temperature reaching 106·3 F.

Recovery by replacement of the lung seemed hopeless under the circumstances, and the author therefore determined to at once attempt pneumectomy.

After careful disinfection of the field of operation, he first drew the prolapsed portions rather farther out of the wound, so as to expose healthy lung tissue. He then ligatured the prolapsed portions with catgut, applying the ligature upon healthy tissue close to the chest wall, and excised the remainder near the ligature. The thoracic wound was then sutured; and in order to avoid the aspiration of air into the thorax during this, an assistant pressed a pad of wadding upon the wound and drew it back slowly for each stitch.

Two or three days later the dog was free from fever, but was dull, and the respiration took place with some difficulty. After eight days the wound had completely healed. Three weeks later the author again saw the dog, and found him apparently healthy, though the respiration was still a little accelerated.—(*Berliner Tier. Woch.*)

The Treatment of Bovine Mastitis.

Bigoteau, in 1905, advised the treatment of inflammations of the bovine udder by injections of from ʒiv. to ʒvj. of a 3 per cent. boric solution warmed to 68 to 77° F. More recently (*Revue Gen. de Méd Vét.*, 1909) he states that it is absolutely necessary to the success of this treatment that it should be commenced as early as possible, and that the affected quarter should be milked out, or at least that the galactophorous sinus should be emptied, before undertaking the injection. This sinus is situated at the base of the teat on the inner side directly under the skin. To empty it the tips of the fingers are first pressed several times from above downwards upon the region, in order to loosen the coagulated mass; the teat is then taken in the hand at its base, and an equably progressive pressure is exercised upon it down to its free extremity. This manipulation is repeated several times if necessary, till the contents of the sinus—a doughy mass, which may attain the size of a walnut—are completely withdrawn. When the sinus is completely emptied, the skin which was formerly stretched over it relaxes, and the region feels soft and impressible, like slightly œdematous tissue.

According to the author's view, the failure of boric injections depends upon neglect to evacuate the coagulum from the sinus.—*Berliner Tier. Woch.*

Bovine Hæmaturia Produced by Papillomata of the Vesical Mucous Membrane.

Ciurea, during his five years' directorship of an abattoir, has rather frequently observed cases of bovine hæmaturia. He describes two of these, which he regards as important from the localisation of lesions in the bladder in the form of mucous papillomata.

Both these cases, curiously enough, occurred in one month—May, 1909. Both were in grey Moldavian oxen, which had been used for labour, and which had belonged to different owners. Their ages were six and eight years respectively, and the symptoms they presented when seen living at the abattoir, and the post-mortem appearances showed a remarkable similarity. Ciurea therefore describes the case of the younger ox alone in detail, and then indicates the few points of difference which were found in the elder one.

When first seen, the symptoms were those of advanced general debility, the mucous membranes were pale, the attitude was rather dull, but the appetite was maintained. The urine was voided frequently and in small quantities, was sanguino-

lent, red brown in colour, and sometimes mixed with small blood clots.

In the case of the younger ox the blood obtained from the large vessels immediately after slaughter was pale red in colour, serous in aspect, and but slightly coagulable. Under the microscope the red corpuscles appeared polymorphous; some were longer than others; some were discoid in shape, some irregularly round, and others oblong.

The lung was found to be normal. The pericardium contained about 200 grammes of a citron serous fluid; the heart was flaccid and held a little non-coagulated blood. Longitudinal section of the great arteries disclosed a little blood of the same character.

The different organs of the abdominal cavity were paler than normal. The liver showed some echinococci, some encysted distomata, and some small zones of teleangiectasis. The bladder, upon external examination, appeared contracted, with an ovoid irregular form. Palpation, before section, showed that its walls were thickened, and revealed the existence of a rather large tumour in its interior. Interiorly, its contents were found to be scanty, red brown in colour, and for the most part coagulated; microscopic examination of this material showed it to be rich in red corpuscles having a polymorphism similar to that already described in the blood. After the coagulated contents of the bladder were detached, a villous tumour came to view, situated near the neck of the bladder, and occupying nearly half the surface of that organ. This tumour was about 1 3-5th inch. thick at its centre, and tended to decrease towards the periphery, at which in parts it was fairly clearly defined from the walls of the bladder, while in other places it was confounded with the hypertrophied vesical mucous membrane. The neoplasm was formed by small spherical pediculated vesicles, the size of which ranged from that of a pepper seed to that of a pea, the whole tumour having the aspect of a bunch of grapes. The vesicles were citron coloured, translucid, appeared to contain a serous fluid, and were slightly resistant to the touch. Their sectioned surfaces presented a similar aspect. Here and there some of these vesicles were pink, and some were even hæmorrhagic. At the end of twelve hours the majority of the vesicles were flattened, as if a portion of their substance had undergone liquefaction and transudation.

The ureters were normal; the kidneys were pale. The lymphatic glands were infiltrated; the fat was slightly fluid and orange-yellow in colour; the muscles were anæmic.

In the case of the older ox, the lesions were similar, except that the liver was normal, the pericardium contained only a little serous fluid, and the vesical tumour was smaller and situated towards the base of the bladder.

Microscopically, these neoplasmata were found to be papillomata of the vesical mucous membrane. The author classifies them under the head of *papilloma polyposum myxomatodes*, though a myxomatous element is not apparent in the short account he gives of their histology. Bleeding from these tumours had occasioned the hæmaturia.

In both cases the author allowed the carcases to pass for food. He thinks that this may be done in such cases, provided that the anæmia has not produced a cachectic condition of the flesh.—*Arhiva Veterinara.*

W. R. C.

VICTORIA VETERINARY BENEVOLENT FUND.

Abstract of Annual Report.

At the request of the Council I have the pleasure to present herewith the Twelfth Annual Balance Sheet and Statement of Accounts of the Fund.

During the financial year 1907-8 the sum of £216 0s. 8d. was received, during the year 1908-9 the sum of £375 12s. 2d. (including a legacy of £200 which was bequeathed to the Fund by the late Mr. B. Kettle, of Market Drayton), whereas the year just closed has resulted in the sum of £181 10s. 11d. being available for the work of the Society.

The Council very much regret to announce the continued illness of our esteemed and kindly President, Mr, Edward Coleman, and of one of our most sympathetic supporters, and Councilman Mr. James Simpson. No doubt the work has been hampered by the loss of their assistance and help, and the Council hope they will soon again be able to place their appreciated services at our disposal. I have pleasure in announcing that Mr. Edward Coleman, Mr. Stewart Stockman, of the Board of Agriculture; and Mr. William Shipley, of Great Yarmouth, have now become the trustees of the Society. The Council desire me to express their regret at the absence of Mr. Burrell, who has been a great friend to the Society, and to express their thanks to those gentlemen for kindly accepting the office.

Early in the present year the Council received with the most sincere regret the announcement of the death of an old and generous subscriber, Prof. Axe. He was almost the first member of the profession to afford the newly formed Society his aid and support, and up to the time of his death, gave it unstinting sympathy and help. That he was anxious that the good work should continue and be extended after his death is manifest, inasmuch as he has been so generous and considerate as to bequeath to the Society upon certain conditions a sum of no less than £2000. This sum is to be paid over to the Society upon the death of Mrs. Axe, and invested until the sum of £3,000 has become available.

I have pleasure further to announce that a member of the profession has been kind enough to send me a donation of £20. I withhold his name at his special request, but assure him that the sum has been by us most gratefully received and accepted.

Two years ago, Mr. J. F. Simpson desired to inaugurate a special fund in connection with the Society for the placing of orphan boys of deceased veterinary surgeons in the London Orphan Asylum. Owing to his impaired health, the scheme, I regret to say, has not been carried out. This is much to be regretted because if a reasonable sum were procured, this, with the support of many of our members, would ensure the election of two or three boys to the school, who would benefit immensely from the training which they would thereby receive. At the present time there are two boys urgently in need of this training. Will some influential member of the profession take this work in hand and carry it to a conclusion. The fund subscribes one guinea a year to this institution as a mark of recognition for the care which is being bestowed upon the boy whom we sent.

I cannot speak hopefully of the success of the scheme which was inaugurated at the meeting of the National

VICTORIA VETERINARY BENEVOLENT FUND.

CASH STATEMENT FROM APRIL 1ST, 1909, TO MARCH 31ST, 1910.

W. F. BARRETT, Hon. Treasurer, in a/c with the Victoria Veterinary Benevolent Fund.

RECEIPTS.

	£ s. d.	£ s. d.
To Balance at Bankers on April 1st, 1909 ...		323 5 7
„ Interest on Investments:		
Consols ...	41 2 2	
Norwich Corpn. Stock	15 10 9	
		56 12 11
„ Subscriptions ...		91 4 6
„ Donations ...		33 13 6
		£504 16 6

PAYMENTS.

	£ s. d.
By Relief	124 18 0
„ Grant to London Orphan Asylum	1 1 0
„ Printing, Postage, and Sundries	11 13 11
„ Invested in Consols ...	200 0 0
„ Balance at Bankers ...	167 3 7
	£504 16 6

Investments:

	£ s. d.
Consols at Cost ...	1695 14 7
Norwich Corpn. Stock at Cost ...	532 3 6
	£2127 18 1

Relief during the year ending March 31st, 1910.

	£ s. d.
Mrs. H.	12 0 0
Mrs. J.	12 0 0
Mrs. W.	12 0 0
Mrs. N.	12 0 0
Mrs. E.	10 0 0
Mrs. G.	12 0 0
Mrs. M.	16 16 0
Mrs. B.	12 0 0
Mrs. C.	16 2 0
Mrs. B. K	5 0 0
Mrs. K.	5 0 0
	£124 18 0

We hereby certify that we have examined the above Accounts, and in our opinion they are correct.

(Signed) JOSEPH WOODGER, *Hon. Auditor.*
RICHARD WARNER, *Chartered Accountant.*

Association at Yarmouth two years ago. A ladies committee was formed with the view of inducing some lady or ladies in each County to undertake the work of obtaining subscribers, visiting the homes of recipients, and of those who sought relief. Upon that Committee there are several influential names, notwithstanding this, very little unfortunately has been done. I say this merely to point out to those of our friends who feel that the work is not being adequately extended, how difficult it is in such a small and scattered profession as ours to get concerted action. One cannot reasonably ask a lady to travel 40 or 50 miles in order to investigate the position of some one who is applying for help, nor can subscribers easily be secured when they reside so far away from the workers. I feel much might be done if each President and Secretary of the Veterinary Medical Societies would exert themselves on behalf of the fund. They might easily secure supporters and forward remittances to myself as Hon. Sec., I can assure them that such help would be very gratefully received. The number of subscribers remain about the same, I do not think more than about 250 members of the profession take any interest in the Society, and one feels that this number is maintained only with the utmost difficulty. I have, during the past three weeks, most successfully appealed to several friends for help. They have responded most generously to my application, but inasmuch as the sums received from them arrived after 31st March last, they will not be announced before next year. I am, however, deeply grateful to them.

In the present financial year the sum of £124 18s. has been appropriated to the relief of recipients, an increase of about £32.

The Council have been accustomed to grant relief to the extent of £1 a month; this seems a small sum, and yet to one almost penniless is a great blessing. Recently, however, the grant in one case has been increased to £1 10s. a month, which sum it is felt will more materially assist the recipients.

In connection with relief, my council much regret the death of Mr. Sam Locke, whom we much esteemed, and whose loss we all deeply deplore. He, as Hon. Sec. of the National Veterinary Benevolent and Mutual Defence Society, gave me much advice and assistance in this connection. I often had occasion to appeal to him for information as to the position of those, whom he was assisting, and who sought relief from us. In this manner we avoided overlapping, and together took care that the funds were wisely spent. It is most gratifying to my Council to observe that the two Societies work together in the most complete harmony, indeed many of our warmest supporters alike support the National Society.

It is gratifying to observe again that two of the ladies whom we have been assisting have during the year intimated to me that owing to improved circumstances they are now able to manage without the grant. They conclude by expressing their great gratitude for the help which has been afforded them, which they have regarded as of very great assistance in the time of stress and trial.

On the other hand, that great care must continue to be exercised in the case of would be recipients is manifest; because in the case of some who have applied for help it has been found on enquiry that their position was not at all such as to warrant even the application for relief. We shall, therefore, continue to make the

strictest investigations before granting aid, in order that our subscribers may feel assured of the wise distribution of the funds they create.

I wish very much I could touch the hearts of those of our members who take no interest in the Society. If they but knew the cases of extreme distress which, owing to the lack of funds, we were unable to relieve, their sympathy would be extended to us in a substantial way. I observed the other day that 80 per cent. of the members of the Stock Exchange subscribe to their Benevolent Fund, as against about 8 per cent. in our own profession. I ask those who have not assisted the Society to consider the matter of affording, at any rate, slight aid.

Further, may I ask those whose subscriptions are in arrear, kindly to forward the same to me at their earliest convenience. The very life of the Society depends upon the maintenance of the number of subscribers. I especially ask the donors who have not for some years assisted us to become *Annual Subscribers*. My Council desire me cordially to thank all those who have generously subscribed to the fund during the past year; and request me to invite those subscribers to interest their friends on behalf of the Society.

W. FREEMAN BARRETT,
Hon. Sec. and Treasurer.

Fountain Court, Temple, London, E.C.
25th May.

COUNCIL 1910-11.

President.—Ed. Coleman, Crofton, Tooting Graveney.

Vice-Presidents.—Prof. Dewar, Edinburgh; Messrs. W. Bower, East Rudham, Norfolk; W. Shipley, Great Yarmouth; S. Stockman, 4 Whitehall Place.

Auditors.—Joseph Woodger, Woodhouse and Wilkinson, 28 Queen Street, E.C.

Council.—Messrs. Sidney Villar, Amersham, Bucks.
J. F. Simpson, J.P., Maidenhead, Berks.
C. Sheather, York Terrace, Regent's Park, N.W.
Jno. A. W. Dollar, 56 New Bond Street, W.
Sir John M'Fadyean, R.V. Coll., London.
J. Penberthy, Prof., Newnham, Glos.
R. C. Trigger, Newcastle-under-Lyme.
J. Abson, Sheffield.
J. Fraser, St. Albans, Herts.
Arnold Spicer, Crabwood, Oxted, Surrey.
W. J. Mulvey, W. S. Mulvey, 116a King's Road, Chelsea, S.W.
F. T. G. Hobday, Prof., 165 Church Street, Kensington, W.
George Banham, 32 Rock Road, Cambridge.
W. Burt, junr., 2 Edward Street, Brighton.
F. W. Garnett, J.P., Dalegarth, Windermere.
F. L. Gooch, St. Martin's, Stamford, Lincs.
T. G. Heatley, Woodbridge, Suffolk.
H. A. MacCormack, 122 St. George's Avenue, N.W.
H. A. Woodruff, Prof., E. S. Shave, Prof., R.V. Coll., Camden Town.
P. J. Simpson, Strathmore House, Maidenhead, Berks.
S. H. Slocock, Hounslow, Middlesex.
H. Sumner, Vauxhall Road, Liverpool.
S. Wharam, Chapeltown Road, Leeds.
H. H. Whitlamsmith, 46 Lewisham High Road, S.E.

Hon. Sec. and Treasurer.—W. F. Barrett, Fountain Court, Temple, E.C.

Foot-and-Mouth Disease in Argentina.

Buenos Ayres, June 2.

The outbreak of foot-and-mouth disease is spreading and a Government decree has been issued isolating the Provinces of Corrientes, Entre Rios, and Santa Fé, and the Territories of Chaco and Formosa. Foreign Governments have been notified accordingly.—*The Times.*

WESTERN COUNTIES VETERINARY MEDICAL ASSOCIATION.

The 27th annual general meeting was held on Thursday, April 28, at the Royal Clarence Hotel, Exeter, when there were present: Messrs. W. Ascott, J. Dunstan, W. Penhale, R. E. L. Penhale, G. P. Short, G. H. Golledge, A. J. Down, W. P. Stableforth, C. C. Parsons, P. Penhale, P. G. Bond, G. H. Gibbings, E. J. Thorburn, R. J. Collings, H. E. Whitemore, G. Burton, J. A. Cocksedge, W. W. Lang, R. Porch, H. B. Nixon, Capt. D. Macdonald, A.V.C., and Prof. Wooldridge.

The minutes of the last meeting were read and confirmed.

Apologies for non-attendance were received from Messrs. Harvey, Elder, Saunders, Gillam, Bloye, Olver, Perry, and Turvill.

CORRESPONDENCE.

A letter was read from Mr. C. Crowhurst, Bodmin, resigning membership owing to the distance of the meetings.

The Secretary was asked to write Mr. Chrowhurst to reconsider his decision as it was intended in future to occasionally hold a meeting in Cornwall.

The circular letter from the Royal Counties V.M.A. asking for support to the suggested appointment of a Veterinary Officer to the Local Government Board was read. Mr. Bond moved, seconded by Mr. Dunstan, and resolved: "That the members of this Association be asked to co-operate with the members of the Royal Counties Association.

A letter was read from the Royal Sanitary Institute asking the Association to appoint delegates to attend at their next meeting. It was resolved that this matter be left in the hands of the President and Secretary to deal.

The following letter was received from Prof. Gofton:

"Royal Dick Veterinary College, Edinburgh.
Dec. 4, 1909.

The Hon. Secretary, Western Counties Veterinary Medical Association.

Dear Sir,—I have received yours of 26th November, and in reply to your request for further information on certain points beg to state:

(1) That one of the chief reasons which makes the institution of Branches advisable is the differences in many of the laws of England, Scotland, and Ireland, an example of which we had recently in the English and Scotch Dairies Bills. In the event of further similar legislation being introduced which applied to one section of the country only, the Scotch, English, or Irish, as the case might be, would be called together and instructed to act in the interest of the profession in connection therewith. A simpler measure, surely, than calling together the whole Association or its Council.

As an illustration of the good work which may be done by a branch, witness the effect of the co-operation of the three Irish Societies recently in connection with Public Health appointments in Ireland. These three Societies have organised themselves into a strong branch on the lines which are proposed in the scheme submitted.

(2) The subscription, according to rule 16 is to be fixed by the divisions. The subscription, payable by members of the National under rule 16, is 10/6 (which goes to the central fund)* plus such further amount as the division may consider necessary to meet its needs.

(3) The object of co-option is in order that the Council may co-opt members who will be able to give them expert advice if that be desired. The Council of

*Since altered, at the Crewe meeting, to 5s.

the present N.V.A. has the power to co-opt members, but so far as I know the power has not been exercised. —Yours truly, A. GOFTON,
Hon. Sec. to the Committee."

The scheme having been cordially supported by the members present, it was resolved that the matter be allowed to stand over until the next meeting.

Dental Instruments.—The HON. SECRETARY reported he had received several complaints as to the length of time it took to get the instruments forwarded from one member to another when required, and on the proposition of Mr. Short, seconded by Mr. Wm. Penhale, it was resolved that the Hon. Sec. be asked to make enquiries as to the cost of an extra set of instruments and boxes for carrying the same, and report to the next meeting.

The HON. TREASURER then read the balance sheet which showed a credit balance of £24 1s. 6½d.

Moved by Mr. Golledge, seconded by Mr. W. Penhale, and resolved: "That the balance sheet be received and adopted."

ELECTION OF OFFICERS.

President.—Mr. A. J. DOWN, of Sampford Peveril, was unanimously elected President for the ensuing year, on the motion of Mr. Bovett (the retiring President), seconded by Mr. R. E. L. Penhale.

Vice-Presidents.—Messrs. BOVETT, OLVER, GIBBINGS, and GOLLEDGE were elected, on the motion of Mr. Bond, seconded by Mr. Dunstan.

Hon. Treasurer.—Mr. BOND was re-elected, on motion of Mr. Bovett, seconded by Mr. Down.

Hon. Sec.—Mr. W. ASCOTT was re-elected, on motion of Mr. Bovett, seconded by Mr. Short.

Next Meeting.—The HON. SEC. reported that he had received many letters from Cornishmen saying they would join the Association if a meeting was held in Cornwall, but that as matters now stood they would be unable to join on account of distance and bad train service.

Mr. BOND moved, and Mr. Dunstan seconded, "That the next meeting be held at at Truro.

An amendment moved by Mr. Short and seconded by Mr. Gibbings, that the next meeting be held at Liskeard, was lost.

The resolution, "That the next meeting be held at Truro," was then carried.

COUNCIL ELECTION.

The PRESIDENT said they had all noticed with great pleasure that one of their members was a candidate for the Council of the Royal College of Veterinary Surgeons. He referred to Mr. John Dunstan, and was quite sure the latter was well qualified for the position and, if elected, would fill the position with credit to himself and honour to the Association. He had great pleasure therefore in moving that the Association use its best endeavours to further Mr. Dunstan's election.

Mr. BOND said it gave him the greatest pleasure to second the resolution. Mr. Wm. Penhale said he supported the same with his whole heart: it was about time a representative from the West was sent up.

NEW MEMBERS.

Mr. GEORGE LANSLEY, Axminster, was proposed as a member of the Association by Mr. Stableforth, seconded by Mr. Ascott.

Mr. BURTON, Torquay, was proposed by Mr. Short, seconded by Mr. Bond.

Mr. W. L. RICHARDSON was proposed by Mr. Dunstan, seconded by Mr. Gibbings.

CLINICAL SPECIMENS.

Prof. WOOLDRIDGE exhibited an interesting Dentiger ous Cyst which he had recently removed.

Mr. G. P. SHORT exhibited a ruptured bladder of a calf which at death was found to contain in the peritoneal cavity over eight gallons of urine. There were also in the bladder scores of small calculi, but the interesting part to notice was that the rupture was not of the usual character but was a small hole such as would be caused by an ordinary stable fork. The question which he wanted their views on was whether the rupture was the result of external violence or by the blocking of the urethral canal with calculi.

Further discussion as to this was deferred until the next meeting. (Mr. Short has since written to say that there was a wound in the skin of the abdomen adjacent to the bladder, and there could be no doubt but that the wound was caused by external violence.)

THE RELIEF OF ROARING IN HORSES BY EXCISION OF THE LEFT LARYNGEAL VENTRICLE.

By GEO. H. WOOLDRIDGE, F.R.C.V.S., M.R.I.A.
Professor in the Royal Vet. Coll., London.

At the outset I should like to sound a note of warning concerning the usefulness of the operation. Roaring, in the broad sense, or the production of abnormal inspiratory sounds during forced exercise may be due to a number of varied causes, and it is not suggested that all and sundry may be relieved by the operation about to be demonstrated. It would be quite useless in cases in which the sound is due to such mechanical obstructions in the air passages as constrictions of the nostrils or posterior nares, cysts or polypi, thickening of the pharyngoid and bronchial mucous membranes, and swellings of the gutteral pouch. On the other hand it is likely to be of great service in those cases of what I may term "true" roaring due to paralysis of the laryngeal muscles, which is usually unilateral, affecting the left side.

In order to understand how the desired results are to be brought about, it is first necessary for us to briefly refer to structure of the larynx and its mechanism. It consists of a cartilaginous framework composed of five pieces, viz., cricoid cartilage, thyroid cartilage, epiglottis, all single and mesially placed, and two laterally placed arytenoid cartilages. They are all moveable one upon the other by means of so-called intrinsic muscles, viz., crico-thyroideus, crico-arytenoideus posticus, crico-arytenoideus lateralis, thyro-arytenoideus, and the arytenoideus. The last named is single, and the rest in pairs. They are named according to their attachments, and thus it will be seen that all except the first named are attached to the arytenoid cartilage and control its movement on its respective side. The vocal cords join the arytenoid cartilages with the thyroid, and they project obliquely into the larynx with their free edge forwards and downwards, thus forming on each side of the larynx a *cul de sac* behind the deep face of the vocal cord and posterior border of the arytenoid cartilage, and which will freely admit one finger in an average horse. The respiratory surface of all the laryngeal structures is lined with mucous membrane.

In normal respiration the arytenoid cartilage moves freely, being drawn outwards by the crico-arytenoideus posticus (the dilator of the larynx) during inspiration, and potentially obliterating the ventricle, while during expiration it dips as it were, carrying the vocal cord with it, so that the two vocal cords have a tendency towards approximation. This action is due to the constrictors of the larynx. In unilateral paralysis of the opened larynx this movement can be readily seen on the normal side, whereas on the other side the arytenoid cartilage and vocal cord are motionless beyond slight vibration, *i.e.* the normal rythm is wanting on that side. The effect of this on the horse is that the larynx is not properly dilated during inspiration, and if exercise

is forced some degree of distress occurs, and the flaccidity of the vocal cord allows it and the arytenoid to vibrate and produce the sounds known as roaring or whistling.

I do not intend to discuss the causation of roaring now, but the fact that the paralysis and atrophy are so commonly limited to the muscles supplied by the left recurrent nerve makes it reasonable to conclude that the peculiarities of the course of the nerve in the thorax are responsible.

Obviously the simplest way of overcoming this distress is to insert a tracheotomy tube, but that is always unsightly, wants constant daily attention, and there is always a considerable amount of noise remaining. To do away with these objections several operations on the larynx have been suggested and attempted. The pioneer appears to have been Professor Günther, of Hanover, who began experimenting in 1834, and practised at various times the following operations, according to Liantard:—1. Resection of both vocal cords; 2, removal of the vocal cord of the paralysed side of the larynx; 3, the partial excision of the arytenoid cartilage; 4, the total extirpation of the arytenoid (arytenoidectomy); 5, the removal of the vocal cord and of the corresponding laryngeal ventricle; and 6, the fixation of the anytenoid cartilage by an anchylosis at its articulation with the thyroid cartilage.

According to Fleming, Professor Günther "finally endeavoured to bring about a firm adhesion between the inner surface of the thyroid and the outer surface of the arytenoid cartilage by excising the laryngeal sac, but leaving the vocal cord intact." This is the operation we propose to perform to-day. It has lately been reintroduced by Professor W. L. Williams, of New York, who worked it out quite independently of Günther's work. He claims very encouraging results, and who kindly described it to me and showed me excellent photographs of larynges which had been operated upon with success in which the anytenoid cartilage and the vocal cord were adherent to the side of the larynx. He subsequently operated in Hobday's presence, and since then I have also seen Hobday operate. The present popularity of the operation is undoubtedly due to Hobday's enthusiasm.

Still another operation has been attempted and fair success claimed, viz., arytenoidorraphy, which consists of suturing the vocal process of the arytenoid back to the wing of the thyroid, and so preventing the dipping and vibration.

It seems to me that the operation we are about to perform is likely to be fraught with the fewest complications, and as many horses are now being operated upon we shall soon know what results to expect. It must only be performed on cases with undoubted paralysis, and care must be taken that no cartilages are wounded beyond the original incision through the cricoid.

The operation.—The horse must be cast on his side and chloroformed. While being anæsthetised the laryngeal region may be washed, and then the patient must be fixed on his back with his head resting straight on his poll and the nose fully extended. I usually inject adrenalin or renastyptin under the skin and into the muscles of the operation area in order to diminish the oozing of blood which otherwise may obscure the deeper operation field. The area is then shaved on the middle line, two inches wide, extending from the intermaxillary space to at least six inches behind the level of the angles of the jaws. After disinfection the incision is made about four or five inches long, the anterior limit being level with the angles of the jaw and cutting through the skin at one stroke. A number of cutaneous vessels must now be picked up with artery forceps. Next cut the paniculus and expose the sterno-thyro-hyoideus muscles. The junction of these along the middle line can be seen, and the incision is continued through this septum down to expose the body of the thyroid cartilage, the cricoid cartilage, and one or even two tracheal rings. The danger from carelessness lies on either side of the seat of operation where the thyro-laryngeal artery comes from the carotid. Another danger zone is the anterior limit of the cutaneous wound where the submaxillary glands are situated with the submaxillary artery and vein, and Stenson's duct on either side. The skin and muscles are slightly retracted, and the larynx palpated to definitely locate the thyroid cartilage, cricoid cartilage, crico-thyroid ligament, and the crico-tracheal ligament. With the head perfectly straight the crico-thyroid ligament is pierced and the incision extended forward to, but not including, the body of the thyroid cartilage, and then backwards, cutting outwards through the cricoid cartilage and the crico-laryngeal ligament. I have not found it necessary to cut the first tracheal ring, but that may be done. I have not found any necessity to use a tampon cannula. The larynx is now held open by means of a special spreader and the interior examined. If one or both arytenoid cartilage lies motionless the operation may be proceeded with, but if both are moving freely during respiration it is useless to proceed since paralysis is obviously not the cause of the trouble. Having decided to proceed, the vocal cord of the paralysed side, which is noticed towards the anterior extremity of the wound, must be drawn back by a small repeller, and the entrance to the ventricle revealed. A circular incision is then made through the mucous membrane with a razor knife and both edges of the portion to be removed are grasped with long forceps. The membrane must then be separated carefully with a blunt spatula or a finger all round and to the bottom of the sac and then lifted out. It is somewhat thin at the depth and easily torn there, but it is rather thick for the rest of its extent, if great care is not taken a piece of the *processus vocalis* of the arytenoid will be removed also. All that now remains is to cleanse the larynx and trachea of blood and to mop out the ventricle. The horse is rolled on to his side and allowed up as soon as possible. No sutures are required or advisable. Subsequent treatment consists of sponging the lips of the external wound several times daily with damp wool wrung out in carbolic solution.

For between two and three weeks the horse breathes through the operation wound and his nose, and during that time the connective tissue surfaces of the ventricle are becoming united, the arytenoid cartilage and vocal cord being bound down in course of time to the side of the larynx. The external wound should be completely cicatrised in four weeks, but the ventricular cicatricial tissue is not strong enough to warrant galloping the horse as a test for at least eight weeks. In other words the horse must have absolute rest from exercise for four weeks, and must then undergo a course of conditionary and not be thoughtlessly galloped for another month. Hence, best time is end of hunting season for hunters.

Now as to the usefulness of the operation. In the first place it is an excellent substitute and improvement on tracheotomy. It is not likely to make an unsound horse sound. Unworkable mares will be made workable, and a hunter roarer will not be heard "three fields away" as the saying goes. It will not affect the heredity of the condition either on the dam's side or on the part of the sire. In fact I go so far as to say it ought not to be performed on a sire, otherwise it is countenancing a fraud. In a nutshell, distress should be relieved, and sound either much reduced or completely obliterated.

It remains to be seen yet in what percentage of cases these desirable results will be obtained. The operation, however, would appear very promising, and there is still the consolation of knowing that if the required relief is not obtained, tracheotomy may still be resorted to.

Possible ill-effects are pneumonia, asphyxia, granula-

tions, and ordinary risks of casting, and of wounds as tetanus and malignant œdema.

After the paper the members adjourned to Mr. W. B. Nelder's yard to witness the operation on three confirmed "roarers." All the arrangements were spendidly made by Mr. Nelder, and the operations were brilliantly performed by the Professor.

At the conclusion of the demonstration the President proposed a very hearty vote of thanks to the Professor for so kindly coming down and demonstrating the new operation for their benefit, and in such a brilliant manner. Mr. Bond seconded, and it was carried with acclamation.

The HON. SEC. then proposed a hearty vote of thanks to Mr. Nelder for making the arrangements and remarked that without Mr. Nelder's invaluable assistance it would scarcely have been possible to have had such a splendid gathering. The new President seconded, and this resolution was also carried with acclamation.

The members then returned to the hotel.

On the proposition of Mr. Dunstan, seconded by Mr. Down, a cordial vote of thanks was accorded to Mr. Bovett, the retiring President, for his services during the past year.

The members then took high tea together.

W. ASCOTT, Hon. Sec.

GLASGOW VETERINARY COLLEGE.

The following medals, granted by the Highland and Agricultural Society, the late Prof. Allen Thompson, and Principal M'Call, and certificates of merit were awarded in the different branches as follows:

Junior Anatomy.—James M. Dawson, medallist and first-class certificate; Tom T. Taylor and Wm. Stewart, first-class certificates.

Zoology.—James M. Dawson, medallist and first-class certificate; Tom T. Taylor and Wm. Stewart, first-class certificates.

Chemistry.—Jas. M. Dawson, medallist and first class certificate; Tom T. Taylor and Wm. Stewart, first class certificates; J. Fulton and R. F. Smith, second class certificates.

Botany.—Jas. M. Dawson, medallist and first class certificate; Tom T. Taylor, first class certificate; J. Fulton, R. F. Smith, and W. Stewart, second class certificates.

Physiology and Histology.—P. J. Turner, medallist and first class certificate; D. Keir, H. Paul, and James Galloway, first class certificates; R. M. Lawson, Alex. Ferguson, and D. G. MacLeod, second class certificates.

Stable Management.—D. Pollock, medallist and first class certificate; D. G. Macleod and Robert M. Lawson, first class certificates.

Senior Anatomy.—David Keir, medallist and first-class certificate; P. G. Turner and Harold M'D. Paul, first class certificates; A. Ferguson and R. Lawson, second class certificates.

Pathology and Bacteriology.—Peter Meikle, medallist and first class certificate; James N. Reynard, first class certificate.

Hygiene and Dietetics.—John Scott, medallist and first class certificate; James N. Reynard and John Gibson, first class certificates; Peter Meikle, second class certificate.

Materia Medica.—Peter Meikle, medallist and first class certificate; John Gibson, first class certificate; Jas. Reynard and G. Scott, second class certificate.

Veterinary Medicine.—David Cooper, medallist and first class certificate; D. B. J. M'Call and Adrian Howie, first class certificates; G. M'Intyre and W. Jackson, second class certificates.

Veterinary Surgery, Obstetrics, and Shoeing.—David Cooper, medallist and first class certificate; Gordon M'Intyre and Walter Jackson, first class certificates; D. M'Call and A. Howie, second class certificates.

Parasitology.—Gordon M'Intyre, medallist and first class certificate; D. Cooper, A. Howie, and D. B. J. M'Call, first class certificates.

Practical Examination of Horses as to Age, Soundness, Operations, etc.—David Cooper.

Practical Examination of Cattle and Sheep as to Age, Soundness, Operations, etc.—D. Cooper.

Allen Thompson Gold Medal for the best Professional Examination on Anatomy.—Patrick J. Turner.

ROYAL (DICK) VETERINARY COLLEGE.

Owing to the death of King Edward, the distribution of prizes, which took place on Monday afternoon, May 23rd, was this year was conducted in private. The following were students who gained distinction in their classes:—

Class A.—Anatomy—John W. Hayes; 2, Ronald S. Little. Chemistry—Ronald S. Little; 2, John W. Hayes. Practical Chemistry—Ronald S. Little. Biology—John W. Hayes; 2, Ronald S. Little.

Special prizes.—Practical Chemistry, presented by Prof. Gemmell—Frank Christopher.

Special Book prize, presented by Dr. Macdougall—George Atkinson.

Class B.—Anatomy—Samuel Littler; 2, William Kearney. Histology—Samuel Littler. Physiology—Samuel Littler; 2, James M'Atee. Stable management—Henry A. Thorne; 2, James M'Atee.

Practical Anatomy, presented by Dr. Bradley—Samuel Littler.

Class C.—Pathology—W. D. Connochie; 2, Wm. Halstead; 3, Charles Masso. Practical pathology, presented by Dr. Leighton—L. A. Aucterlonie. Materia medica—W. D. Connochie; 2, Wm. Halstead. Hygiene and Dietetics—W. D. Connochie; 2, Wm. Halstead.

Class D.—Surgery—Frank Chambers; 2, David R. Crabb; 3, Vincent P. Littler. Medicine—Frank Chambers; 2, Vincent P. Littler; 3, David R. Crabb. Obstetrics—Frank Chambers. Clinique—David R. Crabb; Henry C. Lowry.

Meat Inspection, presented by Dr. Leighton—Frank Chambers.

Macfarlane medal for best aggregate in class examinations—Frank Chambers.

College Bursary—Hugh Fraser.

Edinburgh Veterinary Medical Association—Essay medal—Frank Chambers.

Communication Medal—David R. Crabb.

Principal DEWAR, who presided, in referring to the course which had led to the abandonment of the usual ceremonial, said: We all know—we could not avoid knowing if we tried—that the whole country is in mourning. When we read in our morning paper, little more than a fortnight ago, that our King was ill we dared hardly think of the possibility of that which was so soon to take place. We knew how he rallied from the serious illness and operation which delayed his coronation. We knew the active busy life he led, how he loved to be in the country and in the open air, and never thought but of a long period of health and strength and usefulness still to come.

Little wonder then that after the short notice the public had of his illness, the intimation of the death of His Most Gracious Majesty King Edward VII. was scarcely credited. Men talked in the streets as if unable

to grasp the possibility of it being actual fact, and when it could be no longer questioned it caused a feeling of apprehension and dismay in all classes of the community. Each of us felt that we had not only lost our King but had lost a friend.

We all know how he had the welfare of his people at heart, how he was continually trying to alleviate the suffering and distress, what he did for the advancement of science, how he encouraged everything likely to lead to the diminution of misery and disease.

We also know what a lover of animals he was, how, at his own royal farms he had horses and cattle—using the word cattle in its wider sense—and bred only of the best. He was a frequent visitor at our national showyards, the Royal, that of the Smithfield Club, and of our own Highland and Agricultural Society, at which we saw him here in Edinburgh not very long ago. And we know what a true sportsman he was, how he fostered all kinds of sport. In his love for and in his encouragement of the breeding of animals he was a true friend of our profession.

But the great world around us will look on these things as but minor details, and will consider the work he has been enabled to accomplish for the comity of nations, for the peace of the world, as the outstanding feature of his reign. Quietly, and without apparent effort he has been the greatest power for peace in our time. He could not have wished for any better memorial than to be remembered, down through the centuries, as Edward the Peacemaker.

Veterinary Science in Bengal.

The Calcutta Veterinary College is the only one of its kind in this part of India; to it all students must repair if they would qualify for appointments in the Veterinary Department or as private practitioners. Now what sort of practical instruction can they hope to receive in an institution so defectively equipped as to be without the essential complement of an animal hospital? It is self-evident that they are badly handicapped by the deficiency, and have no possible chance of holding their own with students of the Bombay Veterinary College. Graduates from the west can acquire a very decent private practice in Calcutta if they are clever and pushing, whereas Belgachia alumni have no honour either in the capital or in the mofussil. The Bengal Government have no funds to provide a hospital at Belgachia to compare in any way with the Bai Sakarbhai Petit Hospital at Parel. Who then? Surely those aristocratic Vice-Presidents who are in the habit of subscribing so liberally to funds for the erection of statues to living official mediocrities. The Bengal Chamber of Commerce and the Calcutta Trades Association are not free of responsibilities in this direction. Their members give freely of their substance for bronze effigies to increase the attractiveness or exaggerate the incongruity of the *maidan* valhalla; surely they have a little left to give to the S.P.C.A. for a hospital which would be a credit to the city and a help to that veterinary work of which India is in so much need. Every commercial man or tradesman who gets upon a public platform to spout on the econmic conditions of India, will tell you that agriculture is the mainstay of the people and the all-important factor of their prosperity. Yet we have met few merchants and shopkeepers in Calcutta ready to put their hands in their pockets to assist veterinary work, without which the agricultural revival is incomplete and in hourly danger of failure and collapse. If they could be fired by the shining example of the Bombay Petits to collect funds for a large hospital for animals in which it would not be derogatory to the dignity of Colonel Raymond and his assistants to work, they would be doing much to erase a foul blot from the escutcheon of Calcutta.

In the agricultural countries of the world India has a very bad reputation for her scandalous neglect of scientific veterinary practice. All the ills to which dumb animal nature is heir obtain in this country in the most virulent form, and to the eternal disgrace of the Government be it said that no consistent and conscientious effort is made to eradicate disease or mitigate its consequences. Until very recently the Veterinary Department, Civil and Military, was regarded as of no account; and even now when the importance of its mission is reluctantly acknowledged, it is about the last to receive imperial and provincial grants to ensure adequate *personnel* and equipment. We see the results of this stupid policy all round us. Rinderpest stalks through the land decimating the cattle of the ryots. Glanders is prevalent in every village, and even *bursatee* goes unchecked. Yet there are shrewd business men like Mr. A. A. Apcar, the premier owner of the Calcutta Turf, who affect surprise that the Australian Commonwealth sets its face against the importation of horses from India. Why should Australia imperil her live stock? At present she knows no rinderpest, no glanders, no other contagious animal disease. The secret of the success of her export of horses and cattle is the certainty that the beasts are clean all through. To ruin that splendid reputation by allowing importation from India, a very plague spot of disease, would be criminal lunacy. We are glad to feel confident that the Australians will never do their fine country so ill a turn. We wish we could feel as confident that the people of India will bestir themselves to adopt measures to remove the reproach justly thrown at them. The Government of India are helpless from the want of funds; private men of wealth are apathetic from a dearth of knowledge and a lack of feeling. How is a reformation to be achieved? Well we do not pretend to name all the ways and means, but if the citizens of Calcutta would subscribe the money for an animal hospital on the lines of that which is the pride of Bombay, they would be doing something to point the path of duty to the Government and the country at large; and at the same time would rehabilitate themselves in the eyes of humanity.—*Indian Planters Gazette.*

THE PREVALENCE OF BOVINE TUBERCULAR MASTITIS.

By Sheridan Delepine, M.B., C.M. Edin.

[Abstract.]

In studying the mode of spread of any infectious disease it is always necessary to keep in mind the complexity of the conditions influencing or determining the occurrence of infection. To the pathologist an infectious disease is invariably the result of the action of an invading or parasitic organism upon an invaded organism or host.

The occurrence of a case of "tuberculosis vera" may be taken as absolute proof that Koch's bacillus has penetrated and multiplied in the tissues of an individual in whom it has caused the symptoms and lesions which we associate with tuberculosis The converse is not true, and we cannot say that the presence of tubercle bacilli in a locality, or even within the body of an individual, is invariably followed by the production of tuberculosis. This sequence is probably the exception. The occurrence of cases of infectious disease is not determined only by the presence of the essential causal agent, but also by the co-operative agency of various factors, some of which become, under certain

circumstances, so important that they more or less completely overshadow the essential cause. This is particularly noticeable in the case of diseases such as tuberculosis, which are caused by widely-distributed microbes. If, whenever the opportunity of infection occurred, the bacillus was abundant or virulent enough, and its possible victims were in a receptive state, there would be very few persons free from tuberculosis among civilised communities.

The importance of predisposing factors is often so great that not a few clinicians and administrators have given scant attention to the essential cause. It must be acknowledged that in many cases it is is possible to obtain excellent results by dealing thoroughly with predisposing causes, and often there is no other course open to us. It is, however, never safe to disregard, even temporarily or partially, the *causa causans*, because it is a variable factor, and may, under the influence of various circumstances, increase in amount or acquire infective powers exceeding the average. Neither is it safe to trust entirely the action of natural or artificial curative agencies. Recoveries from infectious diseases may be apparent or real, and do not invariably result in so great a reduction in the number of infective centres as might be expected. Recoveries brought about by natural processes introduce also an additional element of complexity in our estimates of the incidents of various infectious diseases.

In studying the conditions which influence the prevalence of any infectious disease we must therefore take account of the possible action of a great number of factors which may roughly be grouped into the following categories: The distribution and habits of the infecting parasite, the conditions influencing the quantity of the parasite, the conditions influencing the virulence of the parasite, the opportunities and channels of infection, the conditions influencing the resistance of the possible host, and the proportion and completeness of recoveries.

I have thought it necessary to make these few preliminary, and I might almost say commonplace, remarks to make it clear that I have no illusion regarding the completeness of the facts upon which this communication is based. I must also at this stage explain that it is not my intention to enter upon a discussion of the relations of bovine to human tuberculosis. I am fully convinced of the unity of human and bovine tuberculosis—a unity which does not preclude variations. I believe that, both in man and cattle, infected food is an important conveyer of tubercular infection, and that the milk of cows suffering from tubercular mastitis is the most important means of transmission of bovine tuberculosis to the infant.

Tuberculosis of the Udder in Relation to Tuberculosis of other Organs.

Cows affected with tuberculosis of the udder are, in the majority of cases, suffering also from more or less advanced tuberculosis of other organs. I have personally examined post-mortem the organs of a great number of cows affected with tubercular mastitis, and in only one case out of nearly 100 have I failed to discover tuberculous lesions of internal organs. In three more cases out of the same number the internal lesions were limited; in the great majority of cases they were extensive. Out of more than 300 cows suffering from tuberculosis of the udder, and examined by several veterinary surgeons, only four have been reported to me as having been free from any other tubercular lesions. Primary tuberculosis of the cow's udder would therefore appear to be of rare occurrence.

Tubercular mastitis is not common in young cows. I estimate that about 90 per cent. of the animals suffering from this lesion are middle-aged or old cows—*i.e.*, cows over four or five years of age. I regret not to be able to give more definite information on this point, which is not without importance; but, in the absence of any regular system of registration and inspection of cows, it is practically impossible for a veterinary surgeon to ascertain the exact age of all the cows inspected by him during an occasional visit to a farm. An experienced man can, however, estimate rapidly and fairly accurately whether a cow is young or old. It is mostly upon data gathered in this way, more especially by Mr. J. W. Brittlebank, whose experience in such matters is well known, that my opinion regarding the age of cows is based.

From personal observations made between the years 1896 and 1898 I came to the conclusion that in about 3·7 per cent. of all cows suffering from tuberculosis of any organ the udder was affected with tuberculosis. This estimate was rather higher than those made at the time by three well-known veterinary authorities, but subsequent experience has shown me that even my estimate was barely high enough. It may therefore be safely assumed that for each cow affected with tubercular mastitis there are on an average about 27 cows with tubercular lesions of other organs. From the facts collected in this brief summary it seems reasonable to infer, (1) that the presence of a tuberculous udder on a farm is in the great majority of cases evidence that there is on that farm at least one cow suffering with advanced, or fairly advanced, tuberculosis; (2) that the number of cows found affected with tuberculosis of the udder in a district may be taken as a rough index of the probable number of tuberculous cows in that district.

A study of the conditions influencing the prevalence of tubercular mastitis has therefore distinct bearing upon the whole problem of bovine tuberculosis. The importance of this conclusion depends on the facts: (1) that tuberculosis mastitis can, by bacteriological methods, be diagnosed with great accuracy; (2) that no other accurate method is at present available for estimating approximately the relative prevalence of bovine tuberculosis in the various parts of any extensive area; and (3) that, through the work done in Manchester, we are now in possession of a large mass of reliable data regarding the incidence of tubercular mastitis.

If systematic tuberculin testing of all cattle could be practised it would be easy, in a comparatively short time, to obtain more complete data, notwithstanding the fact that the tuberculin reaction often fails in old cattle suffering from advanced tuberculosis; but this simple method was not available 14 years ago, when I began this investigation.

The testing of milk for the presence of tubercle bacilli, though it does not indicate directly the total number of tuberculous animals, has an advantage over the tuberculin test in that it reveals the cows that are the most dangerous to human health.

Influence of the State of the Cowshed and Herds.

Much has been said of the share taken in the spread of tuberculosis by badly constructed, small, ill-ventilated, and otherwise insanitary shippons, of the liability to tuberculosis of certain breeds of cattle, of the pernicious influence of "close breeding for high milking," of the effects of heredity, etc. Although very strong opinions have been expressed by practical and other men upon each of these points, it is difficult, not to say impossible, to discover any *satisfactory record of facts* in their support.

In the hope of obtaining more definite information I asked Mr. Brittlebank to give me certain particulars regarding some 400 farms inspected by him. The particulars asked for were the following. State, age, construction, sanitation, cubic capacity, ventilation, cleanli-

ness of cowshed; number of cows kept; how much kept in the open; special breed: state of cows; how long kept on the farm; average age; stability of stock; precautions taken to avoid the introduction of diseased animals; arrangements for dealing with diseased animals and preventing the spread of disease.

I was aware of the difficulty of obtaining definite or accurate answers to many of the questions included in my schedule, but I thought it desirable to ascertain to what an extent attention was paid to the various conditions which might affect the health of the cattle. It may at once be said that several of my questions remained unanswered for the simple reason that they referred to matters which, generally speaking, had not received proper attention from the farmer. Thus there is no evidence that, apart from reliance on general appearances and judgment based upon practical experience, farmers adopt, as a rule, any *reliable method to avoid the introduction of diseased animals among their herds*, or that they make, of their own accord, *systematic provision for the isolation or disposal of tuberculous animals*. It appears also difficult to obtain very reliable information with regard to the *average age or stability of stock*; this information would have been easily obtained if farmers generally made it a practice to replace animals that had reached a certain age. Very little information capable of forming a reliable basis for generalisation could be obtained regarding the *amount of outdoor life* allowed to cattle in various districts. On some farms cattle are kept in the open as much as possible, but I have so little information regarding the majority of farms that it is not possible to estimate how far the practice influences the incidence of tuberculosis. The keeping of cows in the open all the summer and whenever the weather permits is certainly not sufficient to prevent the occurrence of tuberculosis, for I have clear statements regarding ten farms where the practice was adopted, and in seven of these farms tuberculosis of the udder was observed. On two of these tuberculosis of the udder was detected twice. There were altogether 125 cows on these seven tuberculous farms, and among these cows eight cases of tubercular mastitis were clearly demonstrated; two probable cases escaped detection. Of these seven farms, three were quite satisfactory from a sanitary point of view, one was moderately good, and three were bad.

With regard to the *breed*, there is nothing in the evidence at my disposal indicating that the prevalence of tuberculosis in any district had any relation to the breed of cattle. On the great majority of farms all through the area the herds were composed of animals of various breeds.

In the case of 26 tuberculous farms there is a clear statement that the whole or part of the cattle were *home-bred*. This is sufficient to prove that the practice is not uncommon, but I have no means of ascertaining whether there was any difference in that respect between tuberculous and non-tuberculous farms. With regard to the *general state of shippons*, their *ventilation* and *cleaniness*, the *general state of the cows*, and their *approximate age*, I have somewhat more complete information. In most cases this information is in the form of an expression of opinion, but the opinion being that of an experienced veterinary surgeon (Mr. Brittlebank), and generally based on repeated inspection, it is probably more reliable than records of figures collected by less reliable observers. Moreover, it was only after obtaining the whole of the information about farms, not arranged in any definite order, that I classified all the facts, so that no preconceived idea could have materially influenced the record.

Out of 397 schedules relating to an equal number of farms I had to exclude 12 which were too incomplete to be of any use. This left 385 farms available for the purpose of the investigation. Of the 9283 cows on these farms, 1017 have been found to show some evidence or other of abnormal conditions of the udder, and 287 have been proved to be actually suffering from tubercular mastitis. These results refer to the years 1896 to 1909, during which each of the 397 farms has been inspected more or less continuously during periods ranging from two to twelve years.

In estimating the proportion of infected animals it is important to keep in mind the fact that during a period of 12 years the dairy stock of many farms had been entirely renewed. Even in the case of farms which have been inspected during shorter periods it is probable that the composition of the stock was not exactly the same at the beginning as at the end of the period. This want of stability, and the different practices adopted with regard to the renewal of old stock, make it impossible to estimate exactly the case incidence of tubercular mastitis. The estimate of the proportion of infected farms is not vitiated to the same extent by the movements of the stock, although it is obvious that the chances of infection by the occasional introduction of tuberculous animals are increased when animals are frequently bought and sold. On the other hand, it is well to remember that when cows are allowed to age on an infected farm the proportion of tuberculous animals increases with the age of the stock.

Actively and Potentially Infective Cases of Tuberculosis.

A careful consideration of the statistical facts recorded in this paper, and of facts which I havo observed in connection with a number of farms that I have been able to study closely, has led me to the conclusion that cows in a state of advanced tuberculosis, and *emitting discharges loaded with tubercle bacilli*, constitute the chief factor determining the distribution of bovine tuberculosis. The number of cows suffering from tuberculosis is so great that there are very few farms that are entirely free from tuberculosis, but so long as the tuberculous lesions are confined to the serous membranes, bones, lymphatic glands, or viscera, and have not ulcerated, *they retain their bacilli*. Cows affected with these closed lesions, though potentially infective, are not important sources of infection. When, however, the disease has given rise to ulcerative lesions of the lungs, alimentary passages, genito-urinary passages, or udder, products containing tubercle bacilli are discharged by the animal, the surroundings of which become rapidly infected. As the disease advances there comes a stage when the quantity of tubercle bacilli so discharged is inconceivable. To obtain some information upon this point I have carefully watched a cow affected with pulmonary tuberculosis. For more than six months before its death it had a troublesome cough and at times expectorated some muco-purulent discharge; this was not, however, a conspicuous feature of the case. For four months the milk obtained from two quarters of its udder was loaded with tubercle bacilli, and during the first two out of these four months the supply was abundant. After a time a third quarter began to secrete tuberculous milk. One month before it was killed this cow begun to suffer from incoercible diarrhœa, which continued till its death. The quantity of fluid fæcal discharge evacuated by this cow was considerable, and yet almost every drop of this fluid was loaded with tubercle bacilli. The whole floor of the shippon was either covered or splashed over with this fluid, and, if I had not prevented it, the litter soaked with this tuberculous material would have been thrown upon the adjacent pasture land on which other cows were grazing. I have not measured exactly the amount of fluid fæces evacuated by this cow, but estimated roughly that the amount exceeded one gallon a day. It is easy to conceive how the presence of such a cow in a herd even for a period of a few weeks would be sufficient to

infect both shippon and pastures to an extraordinary extent. In a well-kept farm such a cow would probably be isolated fairly early, but not before some mischief had been done. In a spacious, well-ventilated, clean shippon tuberculous discharges would probably not be allowed to accumulate and to contaminate to a very material extent the food or litter of the other cows. In a badly constructed, ill-ventilated, dirty shippon, infection would be practically certain. But whether the shippon was clean or dirty, it is probable that no precautions would be taken with regard to the litter and washings from the shippon, and that considerable quantities of manure would be infected by admixture with this material. Apart from this, the cow might infect pastures directly, and this infection would persist for a considerable time. It is generally known that desiccation or putrefaction does not affect the vitality or virulence of the tubercle bacillus for weeks and months. I have made an experiment which proves that sero-purulent discharge from a tuberculous udder *kept for 19 months* (part of the time at the ordinary external temperature, but mostly at temperatures varying between −4° C. and + 6° C.) was still virulent at the end of that period. This milk had been left in the bottle in which it had been originally collected, and it contained other bacteria than the tubercle bacillus. The tubercle bacilli had retained their usual characters and reactions, and their virulence was not very materially diminished. They gave rise to very extensive lesions in inoculated animals.

The extraordinary masses of bacilli which can be emitted by a cow in a state of actively infective tuberculosis, and the great resistance of the tubercle bacilli, whether they be contained in dry or moist products, are, I think, sufficient to explain the comparative independence of tuberculous infection from predisposing causes. I say comparative, because I do not wish it to be inferred that predisposing causes are without effect: I have given evidence to the contrary. I was so convinced in 1897 of the effects of infection of shippons and pastures by cases of advanced tuberculosis that in conducting the Ford Bank Experiment† I began by eliminating all cases of advanced tuberculosis, separating from reacting cows all the animals that did not react with tuberculin, housing them in sheds that had been thoroughly disinfected, and not allowing these animals to graze in pastures that had already been used by tuberculous animals. New stock that had not yet passed the tuberculin test twice was not allowed to mix with these sound cows. In this way I cleared from tuberculosis a herd of 27 head of cattle in one year, and no fresh case occurred during a second year, although over 61 per cent. of the original stock were tuberculous. The same method has been used since under the supervision of Mr. Brittlebank at a large farm (129 cows) supplying milk to the hospitals under the Manchester corporation. This farm has now been kept free from tuberculosis for several years.

I am convinced that the success of the work done by the Manchester sanitary committee for reducing the amount of tuberculous milk supplied to the town is mostly due to the removal of actively infective cows and to a diffusion of the knowledge of the danger connected with the keeping of diseased old cows.

General Conclusions.

The evidence analysed above, though incomplete, is, I believe, the best available at the present time for the purpose of estimating the causes of the unequal distribution of bovine tuberculosis. Notwithstanding the incompleteness of my data, I believe that certain conclusions can be based on them, and I think that anyone willing to take the trouble of considering fully the facts collected in this communication will find it difficult to come to other conclusions without neglecting some of the facts. If I am mistaken, there shall still remain to me the consoling thought that I have brought together a number of facts that cannot fail to prove useful to others interested in the prevention of tuberculosis.

There might be some justification for my taking this opportunity to insist once more upon the advisability of adopting the thorough measures which I have advocated during the last 14 years for stamping out bovine tuberculosis. I think, however, that it is undesirable to lengthen this communication.

The evidence obtained so far shows that bovine tuberculosis is, on an average, more prevalent in districts where shippons are generally in a bad state, small or badly ventilated and dirty, and where also it is the usual practice to retain many aged cows on the farms. It is, however, equally clear that there are districts where the farms exhibit all the defects above mentioned, and yet have remained free from tubercular mastitis; on the other hand, there are districts in which the farms were free from these defects, and where many cases of tubercular mastitis have been observed.

It does not therefore appear safe, under the present conditions, to rely chiefly upon ordinary sanitary measures for the purpose of controlling bovine tuberculosis. The frequent, partial or complete, failure of ordinary sanitary measures indicates that the action of the infective material is more or less independent of these measures, because it is at times either very abundant or very virulent. There was no reason to believe that the virulence of the tubercle bacillus was materially affected by the localities investigated, but I have shown that cows with ulcerating lesions—*i.e.*, cows in the *actively infective stage* of tuberculosis—are capable of emitting, and do emit, an extraordinary number of tubercle bacilli. From this I am led to the conclusion that *bovine animals suffering from ulcerative tuberculous lesions, more especially of the respiratory organs, alimentary canal, genito-urinary organs and udder, constitute the chief factor determining the prevalence of bovine tuberculosis.* This conclusion indicates the great importance of *inspecting every animal*, of removing without delay all those that are actively infective, and of not allowing healthy animals to remain in places that have been infected, so long as these places have not been treated so as to remove as far as practicable the dangers of infection. All animals affected with tuberculosis are potentially dangerous, and as their age advances the chances of their becoming actively dangerous increases; it is therefore desirable, so long as bovine tuberculosis has not been stamped out, to reduce as much as possible the number of old animals.

I hardly need to attract your attention to the bearings which these conclusions have upon the control of human tuberculosis. The importance of the removal of infective cases of tuberculosis indicates the desirability of segregating cases of advanced tuberculosis. These cases are generally actively infective, and I am inclined to believe that more could be done towards the future control of human tuberculosis by providing suitable homes for infective cases than by the treatment of early cases. Both things are good, but prevention would ultimately render treatment unnecessary and prevent an amount of suffering that treatment can only reduce. The provision of means of treatment should not interfere with the provision of means of prevention.—*The Lancet.*

[A paper read before the Epidemiological Section of the Royal Society of Medicine on April 22nd, 1910.]

† The Stamping-out of Bovine Tuberculosis, Transactions of the British Congress on Tuberculosis, 1902.

DISEASES OF ANIMALS ACTS 1894 TO 1903, SUMMARY OF RETURNS.

Period.	Anthrax.		Foot-and-Mouth Disease.		Glanders (including Farcy)		Counties Affected	Sheep Scab.	Swine Fever.	
	Out-breaks	Ani-mals.	Out-breaks	Ani-mals.	Out-breaks	Ani-mals.	Animals Attacked	Out-breaks	Out-breaks.	Slaugh-tered *
GT. BRITAIN. Week ended June 4	32	33			4	29		...	43	446
Corresponding week in 1909 ...	21	39			5	42		5	39	202
Corresponding week in 1908 ...	23	28			19	27		1	74	356
Corresponding week in 1907 ...	25	29			16	52	London 26	3	93	283
Total for 23 weeks, 1910	733	887			164	451	Lanak 3	312	612	5662
Corresponding period in 1909 ...	651	877			267	1069		453	777	7189
Corresponding period in 1908 ...	555	738	3	112	369	1206		626	973	4585
Corresponding period in 1907 ...	550	743			420	1007		393	1138	5410

Board of Agriculture and Fisheries, June 7, 1910.

								Parasitic Mange (outbreaks)			
IRELAND. Week ended May 28	...	...	...	...	...	...	1	2	4	142
Corresponding Week in 1909 ...	...	...	...	...	...	...	2	4	4	151
Corresponding Week in 1908 ...	...	...	...	...	...	...	1	1	12	137
Corresponding Week in 1907 ...	...	...	...	...	...	...	1	1	1	62
Total for 22 weeks, 1910 ...	4	7	...	...	1	2	34	327	44	1053
Corresponding period in 1909 ...	3	3	...	...	...	...	45	273	28	354
Corresponding period in 1908 ...	4	7	...	...	...	...	20	260	92	1771
Corresponding period in 1907 ...	1	3	...	...	...	...	43	159	57	1035

Department of Agriculture and Technical Instruction for Ireland, (Veterinary Branch), Dublin, June 1, 1910

NOTE.—The figures for the Current Year are approximate only. * As Diseased or Exposed to Infection

The Model Farm, Glasnevin.—Sanitary Prosecution.

At the Drumcondra Petty Sessions on May 27th, before Dr. Richard Gibbs, Mr. Richard O'Malley, Mr. Benjamin Eustace, Mr. Ml. Hurley, Mr. Gerald Begg, and Colonel Lindsay, three summonses were heard in which the complainants were the North Dublin Rural District Council and the defendant was Mr. G. Stephenson, manager of the Model Farm, Glasnevin. The effect of the first two summonses, which were taken under the Dairies, Cowsheds, and Milkshops Order, 1908, in that dung and other noxious matter had been placed in proximity to the cowshed and dairy, and had been allowed to accumulate. A third summons had reference to keeping swine in yards or buildings used for keeping cows.

Mr. William M'Grath (instructed by Mr. Gerald Fitzgerald) appeared for the complainants, and Mr. G. J. Ball, of the Chief Crown Solicitor's Office, appeared for the defendants.

Mr. Ball said he appeared for the Department of Agriculture, and said he would consent to the case being gone on with, but he would ask the Bench to take a note that he did so under protest. The Department were really the persons responsible for the Model Farm, not Mr. Stephenson. He had several other legal objections, but he preferred to let the case go on, and to show the absurdity of the prosecution.

Mr. M'Grath said that whether the Department were the people in control or not, they had chosen to register the manager, Mr. Stephenson, as the cowkeeper. If the Model Farm consumed its own produce it would be impossible to bring the prosecution, but the fact was that a large business was done in the distribution of milk and butter in Dublin. The prosecution was brought under various Acts, which were intended for the protection of the public. The summonses were taken out under the various orders, which required that there should be a proper receptacle for the manure, and that it should not be kept more than four days.

A magistrate enquired whether there was any limit to the distance between the manure heap and the cowshed?

Mr. M'Grath said that the Local Government Board had not fixed any exact distance in the order. Much depended upon the size of the heap. There was, in this case, 250 tons of manure within thirty feet of the cowshed.

A member of the Bench said that he knew the place and understood that it was finely kept.

Mr. M'Grath said that the place was visited by Mr. Richardson and Mr. Murphy, the Inspectors of the North Dublin Rural District Council on May 3rd. The manure pit was 75 feet long, 51 feet broad, and 5 feet deep, and the stench was noticeable from a considerable distance.

Mr. Ball made an offer to the Bench to provide cars to inspect the place and they would then see the impossibility of infection under the circumstances. He made several technical objections to the summonses, but said he was willing that the case should go on.

Mr. M'Grath said the evidence could be heard, and then the Bench could decide whether it would be advisable to visit the farm.

Mr. James Richardson, V.S., Inspector to the North Dublin R.D. Council, gave evidence as to his inspection of the place. He drew attention to the condition of things at the farm, manure having been allowed to accumulate in the byres. The swine were too near the

cows. There were 60 swine there, and the first shed was about 25ft. away. The manure pit was covered with a roof last year, but it was not now.

To Mr. Ball: He had asked for the Superintendent, but had had difficulty in seeing him. He inspected the place four times a year, and only saw the pit half empty once.

How often did you get bad smells?—Very often.

Mr. Ball produced a letter sent to the Council offering an appointment between the representative of the Department and the Council's Inspectors, but the inspectors did not turn up. They preferred to pimp around among the farm servants.

Mr. M'Grath protested against that remark.

Mr. John Murphy, Temporary Dairy Inspector under the North Dublin Rural District Council, said he came into office on April 7th, and he first visited the Model farm on 8th or 9th April to serve a notice complaining of the cows being in a dirty condition and of the close proximity of the manure heap to the cowsheds, and also of the swine being near the dairy sheds. The notice required these things to be remedied in 14 days.

To Mr. Ball: The witness said he visited the place on April 23rd with Dr. Hinchcliffe, and everything then appeared to be all right. He, however, corroborated Mr. Richardson in his statements as to May 3rd, when the pumping was going on. The milking would not take place until the pumping was stopped. Apart from this complaint he agreed that the farm was well kept.

This was the case for the prosecution, and Mr. Ball called,

Mr. James Drew, the Manager of the Albert Dairy Farm, who said on May 3rd the drainage pit was being emptied that day for the first time in the year. It was never emptied whilst the cows were in the byre. The piggeries were not attached to the cowsheds, but were quite separate.

In reply to the Chairman (Colonel Lindsay) witness said that they had 30 milch cows, and part of the milk was consumed in the college. They required the milk of 20 cows for the use of the college, and they sent out about fifty gallons of milk a day to be sold in the city. They also sold butter, but not much—about 7 or 8 lbs. a week. They agreed that there was a smell when Mr. Richardson visited the farm on May 3rd, but the smell would not reach the milk.

Dr. J. H. Hinchcliffe said he visited the farm on April 18 and met Mr. Murphy and Mr. Drew. They inspected the place and witness found nothing wrong. Mr. Murphy said that Mr. Richardson had said that the manure should not be so close to the byre. As a layman, Mr. Murphy expressed his satisfaction with the place.

In reply to the Bench the Doctor said that he did not think there was any possibility of contamination through the manure being close to the cowshed, as the milk was removed.

Mr. M'Grath: Do you consider that the liquid tank is far enough from the cowshed? Do you think it is sanitary to have the tank 10 ft. only from the cowshed?

Dr. Hinchcliffe said it would be if the tank was not overflowing.

Professor A. E. Mettam said he was called in to give an unbiassed opinion of things at the Model Farm. He was given a free hand to criticise, if he liked, and he thought it was a model place. The cows were kept in the best possible conditions. The milk received from the cows was treated ideally, in his mind—as ideally as it could be practicably. The milk was only in the byre a minimum of time. He examined the manure pit, and he thought it was a reasonable distance from the byre for an agricultural district. He considered it was in a suitable position. He examined the air bacteriologically in the cow byre, and it proved to be better than one would find in an ordinary inhabited house. The piggeries were in an ideal condition, the pigs being absolutely clean. He stood at the cowshed and used his nasal faculties to try and smell the pigs, but the only thing to denote that pigs were there was an occasional squeal. (Laughter.)

Mr. M'Grath: He did not think 28ft. was far enough away for 250 tons of manure, but it followed that half a mile away would be better. He did not consider, however, that 30ft. away was dangerous as a source of contamination. The manure would probably make the air offensive temporarily, when the pumping was going on.

Mr. M'Grath, in addressing the Bench, said that a Department to suggest that 28ft. was not too close to a dairy shed or cowshed was a most extraordinary exhibition for a Department of that kind that was ever made in a Court of Justice. He had every confidence in asking the magistrates to make a conviction.

Mr. Ball said he thought the magistrates should keep out of their minds the pumping on the particular day mentioned, as it was not a regular practice. He had intended to call Sir Charles Cameron as witness. He had made a report with reference to the farm, but unfortunately he had had to go away to London. The prosecution, he thought, was not only cruel, but absurd, in going up against an educational institution.

The Bench retired to consider the case, and on returning the Chairman said that the case was a complicated and difficult one, and the best means of arriving at a decision would be to order that during the time the cattle were in the sheds, the manure should be removed every four days, and not be allowed to accumulate as it did now. The magistrates thought it would be good for officers of the Department and the Council to meet and come to some conclusion as to what was necessary to make the place perfectly healthy.

Mr. Ball said that everything that could be done had been done by the Department, scientific talent having been procured for the purpose that the Model College was conducted. He hoped that no slur would be cast upon the Department.

A Magistrate: There is no slur.

Mr. Ball said that the Department would be very willing to meet the will of the magistrates.

Mr M'Grath said that the officers of the Council would gladly meet the officers of the Department to make any arrangements.

The magistrates decided that the summons for having the manure too close to the cowshed should be adjourned for two months in order that the officers of the two sides could meet. The other summonses would be dismissed. —*The Mail* (Dublin).

Tubercle-Free Herds.

A valuable discussion, which is likely to lead to a still more valuable experiment, took place about a fortnight ago at the monthly council meeting of the Royal Agricultural Society of England. The Veterinary Committee of that Society had at a previous meeting decided by a large majority against the proposition that experiments should be carried out at the Society's Woburn Farm to test whether calves from known tuberculous parents could be reared in perfect health and free from that particular disease; and on the report of that Committee coming before the Society as a whole for ratification the matter was again brought up, fully debated, and by a large majority the recommendation of the Veterinary Committee, which it is true was apparently made with a view to economy, and with no desire to hinder progress or research in any way, was reversed, and an amendment carried which, from its importance, we give in full.

"That the experiments suggested to the Veterinary Committee, for the purpose of demonstrating that by

means of isolation it is possible to rear healthy stock from tuberculous parents, be referred to the Chemical and Woburn and Veterinary Committees, and that they be asked to carry them out forthwith, at a total cost not exceeding £800 to cover the three years."

By means of this important resolution a most valuable experiment will thus be carried out within the British Isles, and all farmers will doubtless look forward with decided interest to the results which will be obtained. The suggestion, as made by Mr. Adeane the proposer of the amendment, is that a certain number of calves—the number being left to the eminent veterinarian, Sir John M'Fadyean—should be taken, from cows that have reacted to the tuberculin test, and that it should be ascertained whether these calves could be reared free from disease by placing them from birth in an isolated position and bringing them up under the most healthy conditions. In support of this proposal it was pointed out that although similar experiments were being carried out in private herds, farmers would not have the same confidence in private experiments that they would have in those carried out by the Royal Agricultural Society, that such experiments would probably be accepted, or perhaps repeated by agricultural colleges, that as the chief difficulty would be the trouble of isolation, farmers would be unlikely to experiment for themselves until the value of the method had been shown to them by some important body, and that any mistakes which might be made could be ascertained at once, and thus avoided in the future. On the other hand, it was argued that it was surely unnecessary to spend even as much as £500 on the demonstration of a fact which was already accepted by the leading veterinary authorities in this and every other country, that the fact that tuberculous cows produce healthy calves could be more cheaply demonstrated by slaughtering the calves from reacting cows and proving their healthiness by examination, that it would be a waste of money to carry out experiments for two and a half years for the purpose of demonstrating a fact that nobody was willing to dispute, and that the conditions of isolation and feeding were such that most farmers would find it impossible to carry out.

There can be but little question as to the value to Irish farmers of carrying out such an experiment, and to our mind a distinct drawback, so far as this country is concerned, is that it is not also being instituted by the Royal Veterinary College of Ireland. Professor Bang's hypothesis as to the building up of a healthy herd even from diseased parents is already known to our readers, for we explained the method fully a few years ago. But farmers are proverbially difficult to move in the way of experiment, and in any case could hardly be expected to go to all the trouble entailed, and bear the cost of possible errors themselves. Many farmers, too, do not know what the method is, and thus should be instructed in it, if the details suitable for this country were discovered by our excellent veterinary college, so admirably suited for such a purpose. The argument that the post-mortem examination of calves from reacting parents should be sufficient is not only far-fetched but is also erroneous, because such calves, though healthy at birth, may be more predisposed to contract the disease than calves from healthy parents; while if Professor Bang's treatment is admitted to be correct, it is all the more reason why we in Ireland should, at least, experiment in the matter, and for the information of Irish farmers eliminate all sources of error by laying down plain and sensible rules for guidance which can be followed safely by the farmers of this country. Until details of treatment are demonstrated to Irish farmers they will be very unlikely to try the new method, but if a trifling expenditure of £800 for 2½ years is sufficient to discover these, it were well if this amount could be allocated to the College from the Development Grant or other similar source for this very important matter.

At any rate we congratulate the Royal Agricultural Society of England on their public-spirited action, and shall look forward with decided interest to the results of the trials about to be instituted.—*The Farmer's Gazette.*

Experiments on Animals.

The Research Defence Society, founded two years ago "to make generally known the facts as to experiments on animals in this country," held its annual meeting on June 3rd in the library of the Royal College of Physicians, Pall Mall East. Lord Cromer presided, and among others present were Sir R. Douglas Powell, Sir David Bruce, Sir James Reid, Sir F. Macmillan, Sir F. Lascelles, Sir Malcolm Morris, Mr. Anthony Hope Hawkins, Mrs. Scharlieb, Professors Ferrier, Halliburton, Starling, and Cushing, Major-General Sir R. Talbot, Canon Duckworth, Lady Sheffield, and Lady Horsley.

Mr. Sydney Holland presented the annual report, which showed that the members and associates had increased by 800 to 3,360. The opening of antivivisection shops had proved the best advertisement for this society, which took the opportunity to circulate its own literature in the same neighbourhoods. No Englishman could fail to be disgusted with the recent circulation of a pamphlet ascribing the King's death to knowledge gained by experiments on animals—even if that had been true. The society would accept the Royal Commission's forthcoming report, whether it was for or against vivisection. The society wished to defend not cruelty, but truth—to show what good has been done by experiments on animals and in what a merciful way they were carried on here.

Sir Douglas Powell said it was deplorable that the society should have to protect the public from the machinations of the clique now dominating and misguiding another association, whose proper work would be to supplement the efforts of science, to diminish suffering, and prolong life. The Society for the Prevention of Cruelty to Animals had done much to ameliorate the condition of animals, but had unfortunately entered on a wild crusade against science. The readiness of many people to have their emotions thus exploited gave a fresh illustration of Mr. Roosevelt's remark that sentimentalism was the most broken of all broken reeds on which righteousness could lean. For one animal life sacrificed in an experiment, hundreds were saved. He had had to sign over 1,000 certificates permitting experiments, and two-thirds were mere pinpricks for inoculation, while anæthesia was required in all the rest. If there was any doubt as to the sufficiency of the reasons for the experiment, the application was referred back to the author or sent to the Association for the Advancement of Medical Research.

Sir David Bruce spoke of the extraordinary victories gained by animal experiments over diseases which had destroyed vast numbers of human lives. In Uganda, where sleeping sickness had killed 200,000 in a population of 300,000, not a single case of the disease was now occurring. (Cheers.)

Mr. Anthony Hope Hawkins said he belonged to the emotional, and therefore suspected, class of literary persons, but he himself believed the speakers of that afternoon were carrying on perhaps the most beneficent work this age had witnessed.

Lord Cromer said that in this matter he had to follow the example of Cobden, who said:—"The only way to get an idea into the head of the British public is to go on repeating the same thing over and over in different language." The men who carried on research by experi-

ment could show a noble record, which the public should be asked to compare with the sterility of their opponents. A Bill had been introduced to forbid all experiments on dogs. The love of dogs was not confined to anti-vivisectionists, but, if dogs, why not cats and horses and guinea-pigs? According to the highest professional authority, experiments on dogs were absolutely necessary to advance knowledge as to certain functions of the human body. The only result of such a law would be to add a few hundreds to the 20,000 stray dogs yearly destroyed in the lethal chamber of the Battersea Dogs' Home, and the vast majority of the few hundreds in question suffered no more than they would in the lethal chamber. He was also against Mr. Stephen Coleridge's Bill, which professed to allow vivisection, but under so many restrictions as to make it perfectly useless. No one was to get a certificate unless a J.P. and a clergyman testified to his high reputation for humanity. The thing was absurd. One J.P. might be an anti-vivisectionist, another a Master of Foxhounds, and they would have different standards of humanity. He would be inclined to move an amendment that no one should open his lips on vivisection without producing a certificate from Judges and Bishops that he had a high reputation for common sense and accuracy. (Laughter and cheers.) He regretted the delay in issuing the report of the Royal Commission. He was told it would probably be published next month, but he was not very sanguine about that. Whenever it did appear, he was sure it would be a very valuable document.—*The Times.*

Parasitic Mange—Owner Fined.

Arthur Hirons, of King's Road, Walton, was summoned at the Kingston County Bench on Thursday for having in his possession a black mare suffering from parasitic mange, and failing to give notice thereof to the local authority. Wm. Caudwell, Fellow of the Royal College of Veterinary Surgeons, and Veterinary Inspector to the Surrey County Council, said that on the 13th May he was driving in Oatlands Avenue when he saw a black draught mare belonging to defendant at work. Her appearance attracted his attention, and, after making an examination, he formed the opinion that the animal was suffering from parasitic mange of long duration. He took a specimen of the scurf, of which he made a microscopical examination, and found an abundance of mange mites. Witness afterwards served a detention notice. The disease was highly contagious. Sergt. Tytherleigh, officer under the Contagious Diseases Act for the district, said he had received no notice from defendant of the fact that the animal was suffering from mange. Previous to the 13th of this month, he saw defendant with the animal, and, noticing the appearance of the mare, asked him if it had not the mange. Defendant said: "No, it is not that. I have had it treated by Mr. Payne, veterinary surgeon, and he says it is not that." Witness told defendant that if it was the mange he must report it; otherwise he would be summoned, and probably heavily fined. Defendant said: "I know that. I have seen it in the paper." Defendant now repeated that Mr. Payne had treated the animal a fortnight. and said that he could not say the disease was mange. A fine of £2, in addition to the Veterinary surgeon's fee of a guinea, and the Court costs, 9s. 6d., making £3 10s. 6d. in all, was imposed.

To the Editor of the Surrey Advertiser.

Sir,—Our clients, Messrs. Payne and Son, of Hersham and Weybridge, have consulted us with reference to a paragraph which appeared in your issue of the 28th ult., in which it is stated Mr. Arthur Hirons (the defendant in the case) said that Mr. Payne had treated the mare in question for a fortnight, and said that he could not say the disease was mange.

This statement is not in accordance with the facts, which are, Mr. Payne instructs us, that Mr. Hirons' man brought the mare in question to Mr. Payne, sen., on March 3rd. Mr. Payne examined the skin under the saddle and collar, and said to the man that "his master would get into trouble if he used the horse," and gave him some lotion for use.

This was the first and only time Mr. Payne saw the animal, and you will appreciate that the paragraph alluded to is likely to do our clients harm in their business. We have no doubt that such paragraph was sent by your reporter in all good faith, but it is possible he misunderstood what Mr. Hirons actually said; and, in any case, we shall be obliged if, in justice to our clients, you will insert this correction in your next issue.—Yours, etc.,

TRINDER, CAPRON AND CO.

156, Leadenhall Street, E.C.

[Our reporter's notes are quite clear as to what the defendant actually said, but we are pleased to give Mr. Payne's correction.—ED. *S.A.*]

Glanders at Ebbw Vale Collieries.

For some considerable time the authorities at Ebbw Vale have been much concerned with reference to statements made by Dr. W. Davies, Medical Officer of Health, to the effect that the death of a colliery haulier named O'Shea, and others before him, was due to "farcy," a form of glanders that affects human beings. The death of O'Shea occurred some months ago, and the medical officer asked permission to make an examination of the sanitary arrangements that existed underground. The Ebbw Vale Company refused to allow Dr. Davies to make such examination, although they were not adverse to mines inspectors and others doing so.

Correspondence took place between the clerk of the District Council and the Officials of the Ebbw Vale Company and the Government authorities. Mr. T. Richards, M.P., brought the matter to the notice of the House of Commons, with the result that the Home Office selected a Commission to inquire into the matter. The Commission consisted of Messrs. Martin and Robinson (mines inspectors), Dr. Rocyn Jones (county medical officer), Dr. Wade (Newport), and Mr. Storrar (Abergavenny). The Commission started to work, and in some of the collieries it appears that the internal arrangements were so satisfactory that the Commissioners, so it is reported, complimented the officials and the company.

On account of further investigations, it appears that the disease called glanders really existed among the horses engaged in the collieries, and upon the order of Mr. Digby Watkins, County Veterinary Inspector, four valuable horses were destroyed. On Wednesday, 1st inst., three other horses were destroyed, all the property of the Ebbw Vale Company, glanders being said to be the cause. The animals were taken to a tip at the back of Willowtown and shot by the police. It is stated that about 250 of the horses below the surface will be examined. The district council draw attention to the fact that Dr. J. W. Davies, their Medical Officer of Health, upon whose report the Commission was appointed, has not been consulted or allowed to accompany the members on the round of examination, and a communication has been sent to the Home Office asking why he had been ignored.—*Western Mail.*

The Investigation of Anthrax.

At a meeting of the Aberdeen County Council, on May 27th, Mr. H. D. M'Combie said they had in the report of county veterinary inspector a hint of whether the investigation of anthrax was worth the candle. They looked forward with great hope to the report which had been submitted by the inspector of the Board of Agriculture in connection with the outbreak of anthrax at Braefoot, Turriff, to take them out of the dilemma with regard to the uncertainty of the disease. In that report the inspector took up the position maintained by the county inspector. In his opinion they should drop the investigations like a hot potato. He moved that they cease holding bacteriological examinations. The Chairman pointed out that notice would have to be given of the proposal.—*M. T. J.*

The Effect of Repeated Small Doses of Quinine on the Blood.

De Sandro (*Rif. Med.*, March 7, 1910), experimenting on dogs with reference to the effect of quinine in small and repeated doses on the blood, concludes as follows: Seven dogs were used; four of these (including a control animal) were experimented upon for ninety-five days, and three for eighty-five days. The daily dose of quinine (divided into two) was 40 cgr. of the bichloride salt to every 70 kilog. of body weight. Under this treatment the amount of hæmoglobin increased from the third and fourth days up to the seventh, and remained at that level (varying from 3 to 13) during the course of treatment. *Pari passu* with the increase in hæmoglobin there was a corresponding but slightly smaller increase in the number of red corpuscles. The leucocytes increased to double and sometimes treble the initial number. During the whole period of cirrhosization there was no poikilocytosis, no anisocytosis, no anisochromia, no cyanophile corpuscles, no polychromatophile erythrocytes, and no erythroblasts. The viscosity of the corpuscles was not changed. The polynuclear neutrophiles were increased (10 to 13 per cent); there was a relative diminution in the number of lymphocytes and large mononuclear cells. The globular resistance was slightly augmented and the coagulation of the blood a little retarded. On the whole it may be said that in small daily doses quinine improves the state of the blood by raising the hæmoglobin index, by increasing the number of red corpuscles, and by inducing a certain degree of leucocytosis; in larger doses the contrary effect is produced. —*British Medical Journal.*

Hunter's Free-Martin.

The history and etymology of the free martin was discussed in some parographs bearing that heading in the *Journal* of May 7th. p. 1125. Mention was made of an important monograph on the subject by Dr. Berry Hart. [Proc. Royal Soc. Edin., vol. xxx., Pt. III, 1910]. That observer reports the histology of the sexual gland in one of Hunter's specimens. Microscopic sections were made under the direction of Dr. Arthur Keith, the Conservator of the Museum of the College of Surgeons, by permission of the Council of the College, and Dr. Hart examined the slides and made photomicrographs. These specimens, although nearly a century and a half old, are in perfect preservation, and it is still more remarkable that the microscopical sections, cut in celloidin and stained with logwood and eosin, show even the finer details in a recognisable manner. They have proved that in Hunter's cases the sexual glands are testes, the adjacent structures epididymis, and that the tubuli semeniferi are distinct, although in only one are spermatozoa present. They display the condition usually detected in undescended testes in man and in the normal testis before its complete descent. In none of the sexual glands are ova present. Dr. Berry Hart therefore concludes that the free-martin, when the co-twin is a potent male, is a sterile male and not a sterile female; in other words, the twins are identical males except in their genital tract and secondary sexual characters. In conclusion, Dr. Hart discusses the free-martin according to Mendelian principles, which lead to the same conclusions. The free-martin is a bull, not a cow, and, says Dr. Hart, "the term pseudo-hermaphrodite means nothing."—*British Medical Journal.*

Unregistered Medical Practitioner.

At North London, Henry Werner, Old Quebec Street, Marble Arch, was summoned before Mr. Hedderwick for wilfully and falsely pretending to be a registered medical man.

Mr. Bodkin, instructed by Messrs. Hempson, solicitors to the Medical Defence Union, appeared in support of the summons, and Mr. Vaughan, solicitor, was for the defence.

Mr. Bodkin said that the proceedings were taken under the Medical Act of 1858 and arose out of an inquest on the body of Ernest Reich, who at the Marble Arch Hotel early in March took poison. The defendant was called in as medical man, and he treated Reich for the poison. After some days Reich was removed to the German Hospital at Dalston, where he died. At the inquest the defendant, who was summoned to give medical evidence, gave the name of Henry Werner, and, in reply to the Coroner's questions, said that he was a registered medical practitioner. At the end of the inquest he signed the expense sheet and received a fee of 21s. as a medical witness. The case was reported in the newspapers and was noticed by Dr. Bateman, General Secretary to the Medical Defence Union, and these proceedings were initiated. It was thought desirable, however, that a visit should be paid to the defendant, and as a consequence an officer of the union visited the house at Old Quebec Street, asked for Dr. Werner, and saw the defendant, who prescribed for him and charged a fee of 5s. It could also be shown that the defendant advertised in *The Pelican* as "Dr. Werner, the well-known French specialist."

Mr. Vaughan said that the defendant would plead "Guilty." He had had considerable medical experience on the Continent and thought that he was entitled to practise as a medical man.

Mr. Hedderwick said he regarded this as a serious case. It was serious from the point of view of the body of men whose prerogatives the defendant was usurping, and also serious from the point of view of the coroner, who had to be led largely by the medical evidence. The defendant would have to pay the full penalty of £20, with £5 5s. costs, and in default of distress suffer one month's imprisonment.—*The Times.*

The Conveyer of Pellagra.

A telegram, dated May 13th, from Dr. Sambon, in Italy in charge of the Pellagra Field Commission, conveyed the information that "the Commission has definitely proved that maize is not the cause of pellagra; the parasitic conveyer is the *Simulium reptans.*" The maize theory has been so long an accepted belief that if Dr. Sambon has done nothing more than direct attention to other possible causes of pellagra only good can come of it. He states that the *Simulium* is found wherever pellagra prevails.

Dealing with East Coast Fever.

On the 31st March a case of East Coast Fever was diagnosed among some cattle grazing on the Umzimkulu Village Commonage. The only infected animal, a cow the property of the local constable, had been three years in the village, so it is more than difficult to conjecture how the infection was contracted. The case was discovered by Veterinary Surgeon Spreull. On the matter being reported the affected animal was forthwith destroyed, as well as 303 animals, which were treated as in-contacts. The infected area was promptly quarantined, also the major portion of the Umzimkulu district abutting on the Natal border, and extending from Riverside to Harding Gate, which is fenced and guarded. No movement of horned cattle is permitted from or into, or from any one farm, native location, forest reserve, outspan, or commonage, to any other such place within the quarantined area. The Government, in a word, is putting forward every endeavour to arrest the spread of the disease, and although it has crossed our borders, there is still hope that it may be brought under control. —*Agricultural Journal* (Cape).

THANKS TO ELECTORS.

To the Fellows and Members of the Royal College of Veterinary Surgeons.

Gentlemen,

Although not successful in gaining a seat on the Council at the recent election, I am extremely grateful for the support accorded me, and beg to thank those who so kindly voted in my favour.—Yours faithfully,

W. PACKMAN.

The Wylde, Bury.

Dear Sir,

Will you kindly allow me, through the medium of your widely read journal, to tender my heartiest thanks to the 973 gentlemen who honoured me with their votes at the recent election of Council, and to assure one and all that it will be my endeavour in the future as it has been in the past, to do all that lay in my power to advance the best interests of our profession.

Thanking you in anticipation.—I remain, dear sir, yours faithfully, JOSEPH ARSON.

Sheffield, June 7.

Dear Sir,

I desire to sincerely thank those members to whom I owe my re-election as a Member of Council, for their vote and continued confidence, and you can rely upon my interest and to faithfully carry out the duties and proceedings of your Council, and at all times possible to promote and maintain the best interests of our profession.—Yours faithfully,

A. W. MASON, F.R.C.V.S.

Grafton House, Leeds. June 6.

Gentlemen,

I beg to offer my most sincere thanks to all those who so kindly voted for me at the recent election of the Council and furthered my successful candidature.—Yours faithfully,

RICHARD ROBERTS.

8, Church Road, Tunbridge Wells. June 9.

E. MERCK'S CATALOGUE.

We have received a priced catalogue of fine drugs and chemicals from the well-known firm of E. Merck, of Darmstadt, whose London address is 16, Jewry Street, E.C. The list reaches nearly 200 pages, and includes not only the numerous specialities of the firm, but also ordinary and non-proprietary pharmaceutical preparations, with the addition of chemical reagents, test solutions, microscopic media and stains, etc. The terms upon which these are accessible to the profession in this country should be noted. The Merck chemicals are only supplied through wholesale dealers; and though in cases of urgency they may be obtained direct from the firm at its London branch, yet in these cases also the invoicing must be done through a dealer.

A list is enclosed of the houses in the United Kingdom which at present regularly supply Merck's chemicals upon request, and includes most of those which are familiar to our members—among them being Messrs. Allen and Hanbury's, London; John Clarke and Co., Belfast and Dublin; Evans, Sons, Lescher and Webb, London and Liverpool; Ferris and Co., Bristol; John Richardson and Co., Leicester; Willows, Francis, Butler and Thompson, London; and Wyleys, Coventry. There are thus ample facilities for obtaining the Merck products, and the reputation of the firm—not only for the many valuable special preparations they have introduced, but also for the general purity and excellence of all their drugs and chemicals—is far too high to require emphasis from us.

Personal.

OST—DOLLAR.—On the 1st June, at St. George's, Hanover Square, by the Right Rev. the Bishop of Rochester, assisted by the Rev. S. D. Stubbs, the Rev. J. B. Ost (brother of the Bridegroom), and the Rev. D. Anderson: Rev. Audley Alfred Ost, of Ochonry, Co. Sligo, to Christina Mary Aitken, youngest daughter of the late T. A. Dollar, M.R.C.V.S., and of Mrs. Dollar, of 56 New Bond Street, W.

Mr. JOHN CRAIG, M.R.C.V.S., Perth, a former pupil of Mr. Hugh Begg, succeeds to that gentleman's practice at East Kilbride.

Mr. A. EDGAR, M.R.C.V.S., Whithorn, supplied to Mr D. Vance, of Tavistock, Ontario, most of the twelve Clydesdale horses he shipped per S.S. Athenia.

It will be of interest not only to the personal friends of Mr. Sydney Dodd, F.R.C.V.S., Principal Veterinary Surgeon and Bacteriologist, but also to many of those who are connected with stock in Queensland, to learn that the University of Melbourne has honoured him by conferring upon him after examination by thesis, the degrees of Bachelor and Doctor of Veterinary Science (D.V.Sc.) This degree has recently been instituted by the Melbourne University.—*The Telegraph* (Brisbane).

ARMY VETERINARY SERVICE.

Extract from *London Gazette*,

WAR OFFICE, WHITEHALL, June 3.

Col. K. Lees retires on retired pay. Dated June 4.

ARMY VETERINARY CORPS.

Maj. E. Taylor to be Lieut.-Col. Dated June 4.

June 7.

Lieut. W. H. Walker is seconded for service with the Egyptian Army. Dated April 8.

MAJOR FOR PROMOTION TO LIEUT.-COLONEL, A.V.C.

Appendix XV., King's Regulations. Subhead 1.

1. Describe the veterinary arrangements in personnel and equipment of a Force of 5 Divisions advancing out of India, 2 by the Kyber, 2 by Quetta, and 1 by the Kurrum.

2. Describe the arrangements you would make for the Veterinary service of a Line of Communication under the following conditions: From sea base to rail head is 100 miles on a single line of rail. The advanced depot is 40 miles from rail head, and 20 miles behind the fighting line. Assume the veterinary personnel available to be that laid down in War Establishments. The force in the field consists of a Cavalry Division, 6 Divisions and Army Troops.

3. Describe the present Veterinary field equipment used in India, and how is it carried.

4. What method do you suggest for transferring the sick and wounded from the fighting line to the Line of Communications, and how do you deal with them when there.

SUBHEAD 2.

1. Describe in detail the inspection of a Veterinary hospital with its personnel, as it should be carried out by an administrative officer,

2. Supposing the veterinary care of the Supply and and Transport Corps in India to be handed to the Army Veterinary Service, describe your arrangements for carrying out the duties.

3. In the Veterinary inspection of a regiment or unit what are the special points to be observed; how should the inspection be carried out. Assuming the horses to be in a bad condition, what line of enquiry would you adopt in order to ascertain the cause.

4. Put up suggestions for the better Veterinary supervision of Indian Native Cavalry, and describe their influences on the Tilladar System.

SUBHEAD 3.

1. You are Administrative Veterinary Officer and three cases of sarcoptic mange occur in one squadron of a Brigade of Cavalry on Manœuvres. Give full details of the measures you would adopt.

2. Discuss the following. As Senior Veterinary Officer of a Division in India you are inspecting a hospital in a station where there is no veterinary officer, and you find an animal showing symptoms of Epizootic lymphangitis.

3. You are administrative Veterinary Officer on a Line of Communication 80 miles long. The transport is bullocks working on the staging system, the posts being 16 miles apart. An outbreak of rinderpest occurs among a herd of slaughter cattle on its arrival at the third post. What action would you take in dealing with it.

4. A report is received that twenty out of 200 mules on detachment have died during the past fortnight, and Surra is suspected. What steps would you to take to verify the diagnosis and deal with the outbreak should it prove to be one of Surra.

SUBHEAD 4.

1. As Officer Commanding a Veterinary Unit of Lines of Communication, what are your responsibilities regarding the sanitary condition of the lines occupied by a Veterinary Hospital.

3. By what methods are horse decks ventilated, and how is the drainage provided for.

3. Three sites for a Base Veterinary Hospital for 500 horses are offered you. You decline two and accept the third as nothing better is available. In each of the above sites furnish the needful picture. The majority of the sick are cases of debility and laminitis.

4. Describe in detail the sanitary measures which should be adopted in horse lines in standing camps. Consider the subject under the two conditions of peace and war.

SUBHEAD 5.

1. Describe the duties connected with the Base Veterinary Hospital at Nowshera during the Chitral Campaign 1895; show how the two bridges of boats, in and out, across the Cabul river lent themselves to sound veterinary administration.

2. What were the chief epizootic diseases among animals during the above campaign, and the methods employed to prevent their extension.

3. How should slaughter cattle be managed on marches in hot weather, in order to preserve health and condition.

4. In the Chitral campaign there was a long line of communication, intersected or bounded by rivers which contracted the space, and the country was hostile. Discuss the management of outbreaks of epizootic disease under these conditions.

CORRESPONDENCE.

SCROTAL HERNIA.

Sir,

Although, according to Mr. Mayall, I reside in a tub, still I can observe and think, and like my namesake I can retort "Get out of my sunshine." If scrotal hernia does not "necessarily mean" a hernia in the scrotum, then what does it really mean? Also it would be interesting to know how many cases of inguinal hernia Mr. Mayall has met with in mares.

Destructive criticism exerts a salutary effect, more especially in exposing fallacies, many of which exist in the veterinary professson. Also a little sarcasm and cynicism assists in dispelling erroneous ideas and in upsetting beliefs in the "fetish" which so often surrounds old time methods in medicine and surgery.

No doubt destructive criticism does not suit those smug self-satisfied individuals who imagine they know everything, and hug the fond idea that they have "constructed" most valuable additions to professional knowledge. Nor does this style of criticism suit those who imagine that the profession has reached the acme of perfection, and that it is rank heresy to question the views expressed by individuals who assume the title of "Professor."

We have far too many hero-worshippers; it is now time that members of the profession should do some thinking for themselves, and not hesitate to criticise in a destructive manner when such is indicated.—Yours etc.,

"DIOGENES."

MEDICAL VENDORS TRICKS BACKED UP BY PROFESSIONAL MEN.

Sir,

Will you kindly allow me to record, through your valuable paper, what took place whilst visiting the Chatham and Rochester Show last week. I went up to a well-known cattle medisine stand, which was displaying syringes for the milk fever treatment, etc.; while I was there a representative of the firm came and asked me if there was anything he could supply me with, stating all their medicines were dispensed under the supervision of a Fellow of the Royal College of Veterinary Surgeons, and at the same time taking a leather card case from his pocket with the name of the F.R.C.V.S. and local veterinary of Board of Agriculture. I told him I was surprised at a veterinary surgeon allowing his card to be used and advertised. He said that was not advertising. I said I was a veterinary surgeon. I then had the invitation to go inside and have something. Of course I declined and walked away. If such like things are allowed to travel about from show to show what is the use of the present qualification.—Yours, etc.,

M.R.C.V.S.

Dear Sir,—In your issue of June 4th, Veterinary First Examinations, the name of Mr. R. S. Little (Edinburgh College) is given as Littler. Kindly correct in your next issue and oblige, yours faithfully,

R. S. LITTLE